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ABSTRACT

An interpretive overview is provided of the innovative instructional and managerial techniques implemented by the 16 member colleges of the League for Innovation in the Community College between 1968 and 1988. Chapter 1 reviews the origins and history of the League, highlighting its early (1968-75) emphasis on curriculum and instructional development, later (1975-80) concern with social issues, and its current role in leadership development and the promotion of innovative uses of computer technology. Chapter 2 examines the pioneering efforts of League colleges in individualized, self-paced instruction; basic skills programs; honors programs; international education; general education and the humanities; and special instructional environments. Chapter 3 concentrates on innovations to serve new clientele, including outreach via television, services to the handicapped and learning disabled, links to high schools, vocational education, and marketing. After chapter 4 discusses innovations in staff and institutional development, chapter 5 describes community outreach efforts, including cultural enrichment programs, wellness clinics, a plan to promote sex equity in the community, and innovative partnerships with business and industry. Chapter 6 deals with innovations in computer applications to assessment and advisement, instruction, and networking. An epilogue reviews the keys to the League's success. (EJV)

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# CELEBRATING TWO DECADES OF INNOVATION

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LEAGUE for INNOVATION
in the Community College

1988



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# ACKNOWLEDGMENTS

This report is a celebration of the innovative spirit of hundreds of faculty and staff in League member colleges. They are the architects and caretakers of the innovations described in this report; as a result of their pioneering efforts during the past two decades, community colleges in 1988 provide a richer and better education for students.

The League expresses its gratitude to the Kern Community College District for providing the special support that made this publication possible, including the editing services of Gregory Goodwin, Professor of History at Bakersfield College, who, through his considerable insight and skill, brought structure and meaning to the many innovations submitted by the colleges.

Finally, the League owes a special debt of gratitude to the IBM Corporation for its years of support to the League, including a grant to underwrite the publication of this monograph.

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# FOREWORD

Innovation is a slippery concept. Few of us can pin it down to our complete satisfaction. An innovation is an idea never tried before. Or maybe it is an idea that was tried thirty years ago, lost favor and is now popular again. An innovation is a program or a practice that contributes to improvement. Innovation is planned change, but it may also be random experimentation. Something different is an innovation for many people.

The League for Innovation in the Community College is an innovation in American higher education. The League is an organization never tried before, that contributes to improvement, plans change, experiments randomly, and is something different for many of its members.

B. Lamar Johnson, the founding executive director of the League, developed the idea of the League which he shared with twelve of the leading community college presidents of 1968. The twelve presidents found the idea attractive and made a commitment to one another that created the League for Innovation. Although the original partners were visionaries for their time, few of them could imagine that their union would survive for twenty years and become a dynamic and influential organization in community college education.

Now twenty years later, the League for Innovation is a national organization of leading community colleges committed to innovation and experimentation. The League is the only organization of its kind in all of higher education and plays an important role in stimulating and creating new ideas to improve educational opportunities for students. Through its conferences, publications, and projects the League has been a significant force in the past twenty years of the community college movement.

As part of the celebration of its twentieth anniversary, the League is pleased to share this report, *Celebrating Two Decades of Innovation*, which documents innovative practices and programs in the League and its member institutions during the past twenty years. The publication aims to provide an interpretive overview of the combined cumulative contribution to innovation in instructional and management practices of the sixteen current member colleges of the League.

For the purposes of this publication, an innovation was defined as "any educational activity, process, program, or product that has contributed to the improvement of student learning, staff performance, institutional management, or community

service in public, two-year colleges." With that definition, League colleges were asked to identify those innovations that have contributed to the development of community colleges in the past twenty years in which they had played a leading or principal role. Each college was required to limit its nominations to the five most significant innovations for which it was responsible. Gregory Goodwin, a history professor at Bakersfield College of the Kern Community College District—one of the charter members of the League, synthesized the innovations provided by member colleges in a historical context of the past two decades.

The colleges had a most difficult time deciding on which innovations to select from their vast store of exciting programs. This document is only a sample, a teaser of exemplary practices that represents a much more diverse and complex array of ideas that cannot be captured in an abbreviated and selective report. Most of the colleges represented in this volume can claim leadership in many areas of innovation, and many of the descriptions do not do justice to the extensive programs on their campuses.

In spite of these limitations, *Celebrating Two Decades of Innovation* is a rich compendium of the creativity and commitment of thousands of community college faculty, administrators, and staff over a twenty-year period. Here are to be found tested ideas to serve students more fully, to support faculty more effectively, to manage institutions more efficiently, and to reach the community more extensively. Here are visions of innovators.

Chapter One is an overview of the League for Innovation as an organizaton, its founding and its primary purposes. Chapters Two through Six document selected innovations from the member colleges of the League. The Epilogue notes the leadership role of the League and suggests that the next two decades for community college innovations will be more exciting than the last two decades.

Terry O'Banion
The League for Innovation
in the Community College
Laguna Hills, California
April, 1988

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CHAPTER ONE

# THE LEAGUE FOR INNOVATION IN THE COMMUNITY COLLEGE

> Although I am willing to stand up and be counted on the side of innovation, I still find it a difficult subject to discuss. Like taking a shower or scratching an itch, innovation resists description: it's more illuminating to do it than to hear about it. Further, there's something almost self-contradictory about pinpointing innovation, for the roots of the word imply a procedure that abhors rules. If a fellow stands up and says, "Here's how I innovated," the next order of business is to figure out how to violate the steps he has outlined.
>
> Lyle M. Spencer
> President, Science Research Associates

These remarks on innovation opened a 1967 National Conference on the Experimental Junior College. That conference would help to launch an organization that has, for twenty years, stood up for innovation. The League for Innovation in the Community College celebrates two decades of innovation by reviewing the many pioneering efforts of the organization and its member colleges, many of which have been incorporated into the established practices of community colleges and other institutions of higher education.

Twenty years in the pursuit of innovation have produced a plethora of ideas and projects Many have found their way into the mainstream of community college operations, and others have been found lacking and discarded. Over these years, the League for Innovation has sponsored 82 conferences and 69 publications. It has also launched ten major projects with internal resources, and has directed another 68 externally funded projects with total budgets in excess of 23 million dollars. All of this has been done with a small national staff, but an active, dynamic membership.

Perhaps a key to League vitality is the fact that membership has always been limited to a few resourceful institutions. From the twelve charter members in 1968, the number of members has increased to only sixteen in 1988. Membership in the League is by invitation, and it is purposely kept small in order to insure an effective working group of colleges. The Board of Directors is composed of the chief executive officers of the member districts, and their commitment assures participation in League activities. Each member also appoints a League representative, often the chief academic officer, who coordinates member participation.

While limited in size, it is not quite right to picture the League as small. Member districts include 38 colleges located in thirteen states and one Canadian province. Together they employ over 20,000 staff members and enroll about 400,000 credit students — almost one-tenth of all community college students in the United States— and as many non-credit students. Thus the League actually has the advantage of being both compact and expansive. At times the work of the League is done in small, closely-knit groups, usually with representatives from most of the sixteen member institutions. But at other times, a large network of staff and students serves as the source of ideas or provides support necessary to implement projects.

The League for Innovation in the Community College and its member colleges have much to celebrate in their past accomplishments, and this volume is intended to be part of that celebration. Yet, as satisfying as it is to review the successes of the past, this look back is only a reflective pause. For the next twenty years, and beyond, the proper focus for the League for Innovation will be, as it has been in the past, on the future.

**Founder of the League: B. Lamar Johnson**

The national seminar which launched the League was co-sponsored by Science Research Associates, a subsidiary of IBM, and the UCLA Junior College Leadership Program. To a generation of educators, the UCLA Program was synonymous with the name of B. Lamar Johnson, Professor of Education, and a leading spokesperson for the national community-junior college movement.

Johnson began his career as a librarian at Stevens College in Missouri. He moved to California in the early 1950s to help lead the general education ground swell which was sweeping American education as a result of the interest and support generated by the Harvard Report in 1945. Viewing two-year colleges as the key institutions for promoting general education, Johnson tied his university career to community colleges, then usually called junior colleges. By 1960, both his career and the colleges were on the verge of meteoric growth.

Whoever chose the word "experimental" as the topical calling card for the 1967 seminar, it was probably not B. Lamar Johnson, one of the invited speakers. His choice would clearly have been "innovative." After all, he had been working for several years in this field, and in 1964, *Islands of Innovation*, a short monograph on innovation in community colleges was published. In the next five years, he visited 77 junior-community colleges in 22 states, gathering additional material for a major book. Published in 1969, *Islands of Innovation Expanding* would become a landmark in the

literature of the community college movement.

Interestingly enough, although Johnson had settled on "innovation" as a word and concept, he found that it troubled a number of people he interviewed. Perhaps, like Mr. Spencer, they were uncomfortable with claiming an innovation that might already exist somewhere else. Johnson tried to assure them that something new to that college, a change resulting from deliberate planning, was still an innovation for them. One college dean told Johnson that his college's best innovations had actually been stolen from other colleges. Johnson replied, "Fine, the purpose of the survey which I am making is to encourage such thievery." (1969, p. xi) Any purposeful change that led to improvement sufficed as "innovation."

At a few points over the past twenty years, the League Board of Directors has considered adopting a new identifying label, one more in vogue and with less ambiguity. Contenders have been choices such as "excellence" and "improvement," but "innovation" has remained the top choice. Over the years, "innovation" has given the organization a strong national identity, and even its imprecision seems appropriate for the League's diverse array of members, programs, and services.

Many of the innovations discussed in *Islands of Innovation Expanding* seem today to be either commonplace or archaic. However, the twentieth century trends that Johnson noted were underlying the innovations he observed—namely: 1) the proliferation of knowledge, 2) scientific and technological advances, and 3) urbanization—have not abated over the past twenty years. During his tenure as Executive Director of the League for Innovation, B. Lamar Johnson did not lose sight of them, and his vision would lead the League into the 1970s.

## Origins of the League

B. Lamar Johnson wrote the summary of the 1967 National Conference on the Experimental Junior College, held February 23- 26 in Palo Alto, California. Looking toward a future that promised a rapid pace of social, economic, and technological changes, the delegates at the conference wondered what kind of educational institution could best meet the future? They concluded, in the words of Johnson:

> It would seem that an endlessly inventive, experimenting, innovative institution not only would be the safest answer in the long run, but could move ahead of the pack, providing the main body with information about successful paths and dead ends, trailing clouds of glory as it went. Its administration would not be bored, its faculty would be creative, and its students would be as kings. (p. 33)

The conference ended with ten recommendations for encouraging experimentation in America's community-junior colleges. They included teacher exchanges, film libraries, more research and information exchanges, and more seminars and conferences. The tenth recommendation might have fallen on fallow ground had not B. Lamar

Johnson decided to act upon it. That recommendation was to explore "plans for continuing and extending work started at the seminar on innovating and experimental junior colleges."

A dozen community college leaders were invited by B. Lamar Johnson to meet at a Southern California resort, Santa Inez, on January 26, 1968. A number of those invited had begun their careers in California or were associated with the UCLA Junior College Leadership Program. Half of those attending were still at California institutions, and the others were from Florida, Illinois, Michigan, Missouri, Texas, and Washington. Many had made strong impressions upon Johnson as he travelled around the country collecting innovations for his publications. All were considered by Johnson to be up-and-coming leaders in the national community college movement, and they represented institutions that he thought would be likely to support a new organization dedicated to innovation. And, most certainly, they were individuals who were well-liked by Johnson, and people who he seemed to know would relate well to one another.

Those asembled at Santa Inez did not reach agreement on educational priorities or institutional models for community colleges. Rather, they established a process for frank discussion and sharing ideas that would be a hallmark of the culture and style of the League. All left that first meeting with the feeling that each had benefited from the exchange of ideas. And before they left Santa Inez, they had founded an informal consortium that was to become the League for Innovation in the Community College.

The founding members established the League for Innovation as an organization dedicated to innovation, experimentation, and evaluation in all areas of community college development. Specifically, the League would seek to accomplish its purposes by assisting its members to do the following:

1. Experiment in teaching, learning, student services, and other aspects of community college operation.
2. Share results of experiments.
3. Share conceptual planning and learning objectives.
4. Exchange instructional materials and procedures designed to enhance learning.
5. Examine the relevance of varied modes of college administration to experimentation in teaching and learning.
6. Provide a common base for research on the effects of varied innovative practices by gathering and sharing data on students, programs, and modes of organization.
7. Evaluate the impact of the institution's practice on its students and its community.

In the intervening twenty years, the activities and projects of the League have evolved to reflect the priorities and concerns of the times. The focus of League efforts can be categorized into three more or less distinct periods, and these are detailed in the following sections. Yet, the fundamental purposes and commitments of the League for Innovation in the Community College remain those of the charter members who gathered at Santa Inez in January, 1968.

## 1968-1975: Curriculum and Instructional Development

The early years of the League for Innovation in the Community College reflected the interests of its Executive Director, B. Lamar Johnson, and the need of rapidly expanding community colleges for innovative models. In the late 1960s, new community colleges were opening at the rate of one each week. They were seeking new models of instruction, ideas for curriculum development, and ways to inculcate in faculty members an understanding and appreciation for the unique mission of community colleges. These areas of need would be met primarily with special conferences and seminars.

Beginning with a workshop for English teachers in the summer of 1968, repeated in 1969, the League would go on to sponsor eight other workshops and conferences for teachers and student personnel staff in League colleges. Four of these workshops emphasized individualized instruction in science education, specifically biology and physics. Individual conferences were held on general education, learning centers, student personnel operations, and new developments in health fields. Generally made possible by outside funding secured by the League, the list of contributors included the Kettering Foundation, the Esso Education Foundation, the National Science Foundation, and the United States Office of Education.

The administrative aspects of curriculum and instructional development were addressed by special conferences for division chairpersons in 1970 and 1971, for deans of instruction in 1972 and 1973, and for joint deans (adding deans of students and deans of continuing education and community service) in 1974 and 1975. Seminars for League college presidents, especially those in multi-campus districts who were not on the League Board of Directors, were started in 1974.

While all League seminars and conferences involved a search for innovation and developing technology, there were some that focused specifically on the new world of computers. In 1971, forty-three educators from eleven League districts attended a three-day conference on the use of the computer in instruction at the IBM facility in Endicott, New York. Similar conferences would follow on the use of the computer for systematic business management and for student records management at IBM facilities at San Jose, California, and Poughkeepsie, New York. These conferences were the beginning of a long association between the League and IBM, and the beginning of many special League efforts to bring the benefits of the computer to community colleges.

In 1972, the W. K. Kellogg Foundation made a grant to the Center for Improved Education of Battelle Memorial Institute, in cooperation with the League, to increase the effectiveness of educational management in the community college. Called Project Usher, it continued a number of League training programs and made them available to community colleges beyond the League. Staff members at the Battelle Memorial Institute worked closely with League staff in developing and implementing new programs, and the project published a 400-page guide, *The Usher Redesign Model*, which was one of the first national attempts to help community colleges develop a systems approach to planning and management.

One way to view the early years of the League is to see the same type of idea

sharing, so much a part of the ongoing meetings of the Board of Directors, being made available to other administrative and faculty groups. The Board of Directors established a group of League representatives, with one appointed by each member institution, as one more way to institutionalize the objective of exchanging ideas.

**1975 - 1980: Social Issues**

The national unrest that erupted in the United States in the late 1960s and early 1970s, with violent protests on the streets and campuses of the nation, would be answered in part by educational and social institutions giving greater attention to contemporary concerns. By 1975, the Vietnam War had come to an end, and the nation was attempting to respond to the painful lesson of neglecting the civil rights and economic progress of its black citizens. Many other issues also needed to be addressed, including issues of the environment, public health, new sources of energy, and improving the efficiency of public institutions to ease the increasing tax burden of the citizenry.

Many early successful League programs were continued through the decade of the 1970s. Summer conferences for League campus presidents continued, and, in addition, vice-chancellors and members of boards of trustees of League members participated in various seminars and meetings. Workshops with IBM continued which focused on particular aspects of institutional management and instructional resources. Summer abroad seminars for League faculty members sponsored by the United States Office of Education also continued. The first was a seminar in Yugoslavia in 1972, followed by seminars in Egypt, India, Africa, and Jordan through 1976.

In 1975, B. Lamar Johnson retired from his position as Executive Director of the League. Terry O'Banion, the current Executive Director of the League, was selected to succeed him, and the League entered its next phase of activities. The League office stayed near the UCLA campus during the 1970s, housed in a high rise building in Westwood. The transition from the Johnson years was gradual but significant. Along with a new Executive Director and the new forces affecting the nation, the League was ready to take stronger steps toward helping to solve important social problems.

The Arab oil embargo of 1973 and 1974 awakened the nation to a growing dependence upon imported energy resources and the need to explore other sources of energy. In 1976, eleven League districts became involved in a national institute on energy education funded by the United States Energy Research and Development Administration. This week-long institute considered ways to improve energy education in community colleges.

The Department of Energy made even larger grants to the League beginning in 1978, when over $90,000 was made available to train faculty members in League colleges to teach the techniques and skills required to install solar energy systems. Sixty vocational and technical faculty members from nine League districts participated in three workshops, and from that number a group of eighteen was selected for more intensive training. Phase II of the project was funded at about the same level in 1979, and solar energy skills were extended to another forty League faculty members. After

the success of these two pilot projects, the Department of Energy awarded a grant of almost one million dollars to the League in 1980 to greatly expand the training in solar energy applications to colleges beyond the League. In the next few years, 240 faculty members from 120 institutions would benefit from this League activity.

The League's attention to energy projects also extended to the institutional use of energy. The Department of Energy made a separate grant in 1979 to assist League colleges in an effort to use energy more efficiently on their own campuses. The League worked with the Lawrence Berkeley Laboratory, University of California, to collect and analyze data from participating institutions concerning energy consumption.

The League also was awarded two grants from the Western Solar Utilization Network in 1980. One was to conduct several workshops on solar applications for faculty members involved in joint apprenticeship programs and the plumbers and pipefitters union staff. The other was designed to identify content areas and methodologies for the integration of renewable energy resource concepts into existing liberal arts and general education courses. Nearly 100 participants, including union staff, were involved in the workshops made possible by these grants.

Other environmental issues attracted the attention of the League in the late 1970s. In 1978, the National Science Foundation made a grant to the League of over $110,000 to develop inter-disciplinary instructional materials focusing on the impact of human beings on environmentally important areas of the United States. Summer institutes were held at two California locations—Feather River College in the Sacramento basin, and Cerro Coso Community College in the Mojave Desert.

Health issues and education in new health fields also became an important part of League activity. Forty faculty members participated in a 1974 League workshop on the use of self-instructional materials in health fields. Its success and the demand for more such workshops led to a major grant in 1976 from the W. K. Kellogg Foundation of Battle Creek, Michigan, of over $360,000. Fifteen districts were involved in the project to develop self-instructional materials for allied health programs and citizen health consumers. Twenty-four workshops, each lasting two and one-half days, were held for 767 persons, including community college faculty and staff, individuals who were engaged in health care services in the community college area, and faculty members from neighboring schools and colleges.

The participants in this League-sponsored Health Instruction Exchange developed 593 learning packages which were field tested and reviewed by over 3,500 active health professional peers. After revision, and more peer review and field testing, over 330 learning units were distributed to League districts. In 1978, the W. K. Kellogg Foundation awarded the League another grant of nearly $150,000 for a two-year follow-up to the Health Instruction Exchange. League colleges served as pilot centers to test the use of existing and new self-instructional materials. The tested materials have been made available without charge to all community colleges in the nation.

During this same period of time, the League responded to the calls for accountability and increased productivity that were coming from sources inside and outside of the community college movement. The era of rapid building was coming to a close, and the costs of maintaining buildings that had been constructed were escalating

faster than the soaring rate of inflation. In 1977, the League sponsored a national conference in Charlotte, North Carolina, on efforts to increase productivity. Two hundred fifty-eight participants from 30 states and two Canadian provinces attended the conference. The strong interest in the topic convinced League leaders to pursue it further.

With the help of a $250,000 grant from the Carnegie Corporation in 1979, the League established the Community College Productivity Center at the Dallas County Community College District. The three-year project was designed to achieve three specific goals of cost efficiency: (1) to reduce student attrition by five percent; (2) to reduce energy consumption by five percent; and (3) to increase the efficient use of staff by five percent. Fifteen League member districts participated, and, over the three-year period, they designed 45 separate projects to achieve the three goals.

In addition to these activities between 1975 and 1980 which addressed national concerns, the League kept a busy schedule in more traditional community college areas. In response to the increasing use of part-time staff in community colleges, the League made that issue the focus of a national conference held in February, 1977, in Dallas, Texas. The next year the Fund for the Improvement of Postsecondary Education awarded the League a $52,000 grant to refine materials for the continuing education of part-time staff. The project updated materials developed by DeAnza College, Maricopa Community Colleges, and the Dallas County Community College District. The refined materials were tested in League colleges and published as *Teaching in the Community College: An Orientation*, published by HBJ Media Systems in 1981.

Over one dozen other seminars, workshops, and national conferences were sponsored by the League from 1975 to 1980. Two dealt with improving writing skills and two others dealt with teaching non-traditional students. Five were in various areas of staff development, and individual conferences were held on handicapped students, partnerships with business, liberal education, and student assessment. League conferences grew in attendance as the reputation of the League grew in stature. And an increasing number of private and governmental agencies seemed to recognize the value of the League in stimulating innovation throughout the community colleges of the nation.

**Since 1980: Leadership and Computer Technology**

By 1980, League activities had multiplied and diversified into all areas of community college operations. Conferences for presidents, board members, administrative leaders, faculty and staff became firmly established during these years, and often business and governmental leaders have joined in the deliberations. The seventh national conference of the League drew 350 participants to Phoenix, Arizona, in 1980 for sessions dealing with community college partnerships with business and industry. In the following years, the national conferences attracted great interest with topics such as "Health Careers," "Access and Excellence," "Planning for the Year 2000," and a series of conferences on computing. By 1987, a conference on "Assuring Student Success: The Role of Student Development Professionals" attracted over 500 persons

to Kansas City from community colleges throughout North America, and "Teaching and Learning in the 21st Century: The Role of Communications Technology" drew over 800 community college administrators, faculty, and staff to San Francisco.

Other activities flourished. The Innovator of the Year Award, initiated in 1983, was designed to recognize League college staff members who have developed and implemented significant innovations. Each innovator receives a plaque and is featured in a special issue of the League's newsletter, *Innovator*. The innovators are selected on a wide range of criteria, including quality, efficiency, cost effectiveness, replication, creativity, and timeliness.

More recently, the League has sponsored a number of special projects that have quickly become institutionalized as ongoing initiatives. A League Fellows program was established to encourage faculty and staff from League colleges to undertake special projects of interest to themselves or their colleges. Such projects have resulted in a number of valuable resource directories and studies on such issues as part-time faculty, high school-college cooperative programs, staff development practices, and child care services. In 1987, a national community college student art competition was started. Students from League colleges submit original works to compete for awards in a bi-national competition judged by prominent artists. In the same year, a staff exchange program for community college faculty, administrators, and classified staff was also organized by the Maricopa Community Colleges with joint sponsorship of the League and the American Association of Community and Junior Colleges. Also, in 1987, the League established a National Training Network to develop training programs with companies, organizations, and agencies at the national level.

***Leadership Development***. Since its beginning, the League has made leadership development one of its major and continuing priorities. Special opportunities have been provided for faculty and administrators in League colleges, and, in recent years, the League has provided opportunities for many non-League members to participate in leadership conferences and workshops.

Each summer the League hosts an administrators' conference, which focuses on the development of key leaders in League colleges. Every other year, the League hosts a retreat for the chief executive officers of League member colleges and the chairs of their boards of trustees. While League projects which involve leadership development can be found in every chapter of this publication, two projects deserve special attention.

In 1980, the League launched a major five-year project, called Leaders for the 80s, in concert with the American Association of Women in Community and Junior Colleges. The purpose of the project was to develop women community college administrators, and it was supported by a grant of $330,000 from the Fund for the Improvement of Postsecondary Education. Initial program activities aimed at improving self-esteem and skills to assist women to enter mid-management positions. In 1983, the Leaders for Change program was added for women CEOs and those for whom the CEO position would be the next step on the career ladder.

This has proven to be a timely and productive project. Follow-up studies have shown remarkable career advancement for participants, and the Leaders program achieved the goal of becoming self-supporting within five years. Now in its eighth year,

still housed in the Maricopa County Community College District at Rio Salado Community College, it has trained almost 1,000 women from approximately 400 colleges, and is planning for a second decade of leadership development. Offshoots of the national project have appeared as state programs in Wisconsin, California, New Jersey, New York, North Carolina and Washington. A seven-state program for Hispanic women in business has also been developed and operates out of Rio Salado Community College. In addition, the directors of the Leaders program are cooperating with Arizona State University to develop a comparable program for women in four-year colleges and universities.

Racial and ethnic minorities have been encouraged to enter the program and other League leadership programs as well. With such encouragement, League colleges have an enviable record of placing members of minorities and women into leadership positions. In 1987, League colleges outpaced the nation in the number of women and minorities holding chief executive positions.

Nineteen eighty-seven was a milestone year for leadership development activities in the League. Building upon the success of the Leaders program and other such efforts, the League Board of Directors established The Community College Leadership Institute. The purpose of the institute is to prepare staff for key leadership positions in community colleges through a series of seminars and cooperative activities with university leadership programs.

The Executive Leadership Seminar is the first program developed by the institute. It is designed to provide an opportunity for potential community college presidents to review their abilities, interests, and skills in an intensive, week-long seminar. Participants have opportunities to review leadership styles, issues, and requirements in sessions with some of the top community college leaders in the United States and Canada. A national panel of educational leaders selects the participants on a competitive basis for the annual seminar, the first of which is to be held in June, 1988, in Newport Beach, California.

Almost simultaneously, in August, 1987, the League, in collaboration with the Community College Leadership Program at The University of Texas at Austin, received a grant of $1,783,750 to support activities to prepare community college leaders—the largest grant ever made to the League. The grant from the W. K. Kellogg Foundation, well known for its early and consistent support to America's community colleges, aims at improving educational programs and services by strengthening the leadership skills of community college administrators. During the five-year program, ten potential leaders will be selected annually, half from League member institutions, to become Kellogg Fellows in the foundation-aided Community College Leadership Program at The University of Texas at Austin. As part of the program, Kellogg Fellows will complete a semester-long internship with a chief executive officer of a League college.

Another feature of the program is a special publication, *Leadership Abstracts*, which provides a forum for the exchange of ideas and practical advice and for the discussion of issues of concern to the leadership of community colleges in North America. The series balances scholarship and experienced-based writing, and includes contributions from experienced community college administrators, faculty, and board

members; scholars and researchers; and prominent national figures both in and out of education. *Leadership Abstracts* is published twice monthly and sent to the chief executive officer of every community college in North America.

The Kellogg grant also provides support for a number of annual regional and national conferences on leadership and related issues. In the summer of 1989, the League and The University of Texas at Austin will sponsor a major international colloquim on leadership for community college teams to prepare for the challenges of the next century. Kellogg funds have also been committed to support leadership activities of the AACJC Presidents' Academy and other selected AACJC councils, including the National Community College Hispanic Council, the National Council on Black American Affairs, the National Council on Student Development, and the American Association of Women in Community and Junior Colleges. All of these activities reflect a renewed interest in leadership development in community colleges across North America.

***Computer Technology***. The League has a long history of experimenting with innovative applications of computer technology to improve teaching and learning and institutional management. Beginning in 1971, staff members from League colleges attended a special League/IBM conference on the use of the computer as an aid to instruction. Over the next five years, hundreds of staff members from League colleges attended seminars which evolved from the original meeting. By the mid-1970s, League member colleges had established the reputation of being among the most advanced community colleges in the nation regarding the use of computers in instruction and institutional management.

The League and its member colleges have continued to develop numerous member-based computer innovations during their second decade. Several of the applications developed by individual colleges are featured in Chapter Six, while those projects that involved the collaborative efforts of several colleges within the framework of the League are highlighted in this section.

One major League contribution, made possible by a quarter-million dollar grant from the Carnegie Corporation of New York, was the establishment of the National Community College Productivity Center. During the three-year period of the Carnegie grant, from 1979 to 1982, fifty-five productivity projects were undertaken by League colleges, many of which were related to the application of computers to instruction and institutional management. Also, in 1980, the National Science Foundation awarded the League $117,000 to develop materials and methods of instruction to train community college science and social science instructors in the use of computer-assisted and managed instruction. This project, in which Bakersfield College of the Kern Community College District took the leadership role, is detailed in Chapter Six.

By 1984, the League for Innovation was ready to take even a larger step toward participation in the computer revolution. That year the League spotlighted the use of computer technology in community colleges at its national conference, and invited a number of national computer and computer-related corporations to be co-sponsors. The League published, in the same year, *Guidelines for the Development of Computerized Student Information Systems*, documenting the successes of several League colleges.

The response to both of these activities was overwhelming, drawing the attention of many non-League colleges and other computer corporations. The stage was set for the major contemporary thrust of the League for Innovation, the largest project in its twenty year history, dubbed "The Community College and the Computer."

In 1985, the League and its member colleges were joined by eleven major computer and computer-related corporations for the purpose of learning about and adapting computers to improve student learning and institutional management, including American College Testing, American Interactive Media, AT&T, Apple Computer, The College Board, Control Data Corporation, Digital Equipment Corporation, Honeywell Bull, IBM, Information Associates, and the Sony Corporation of America. The Fund for the Improvement of Postsecondary Education also provided $171,375 to support the management of the project.

The computer project has focused on three types of activities: 1) developing and publishing guidelines and related documents on using computer technology in community colleges, 2) sponsoring an annual conference on computing in community colleges, and 3) designing and developing special computer applications to improve student learning and institutional management.

Using the model of *Guidelines for the Development of Computerized Student Information Systems*, a task force made up of representatives of League colleges and computer partners developed a second major publication, *Guidelines for Library and Media Automated Systems*. Like the pilot project, it also contains guidelines for data collection and system requirements and has also been distributed to every community college in North America. Two additional monographs are being prepared for publication by similar task forces as part of the computer project. *Computerized Adaptive Assessment Testing: The State of the Art for Community Colleges* describes the experiences of three League colleges working with IBM and The College Board to develop and implement a major innovation in assessment tools. The second, *Planning for Instructional Computing Resources*, provides an overview of issues in instructional computing in community colleges and guidelines for planning to use computer technology to improve teaching and learning.

Three national conferences on the community college and the computer have been held as part of the project, and two more are being planned. The first, held in Scottsdale, Arizona, in October, 1985, attracted 500 participants from community colleges throughout North America. The second, held in Miami in October, 1986, was attended by 550 community college staff, and the third attracted over 800 to San Francisco. The 1988 conference in this series will be held in Toronto, and the 1989 program on computing in the community college will be hosted in St. Louis.

The third major activity of the project has been the joint development of special computer applications by League colleges and computer partners, most of which are described in Chapter Six. These range from the development of sophisticated computer networks for administrative and instructional applications to faculty training in software development, from establishing model computer resource centers to evaluating the effectiveness of interactive video instructional materials.

## The League for Innovation in the Community College

One of the major projects of the five-year League project has been a $1.1 million initiative sponsored by IBM to assist community college faculty to integrate computers into instructional practices. The initiative is comprised of three projects. First, IBM has selected seven geographically distributed colleges to establish regional training and resource centers for community college faculty: Central Piedmont Community College in Charlotte, North Carolina, serving the Mid-Atlantic region; Humber College of Applied Arts and Technology in Toronto, Ontario, serving Canada; Johnson County Community College in Overland Park, Kansas, serving the Central Plains region; LaGuardia Community College in Long Island City, New York, serving the Northeastern region; Miami-Dade Community College in Miami, Florida, serving the Southern region; Moraine Valley Community College in Palos Hills, Illinois, serving the North Central region; and Mount San Antonio College in Walnut, California, serving the Western region.

IBM has equipped these centers with its PS/2 generation of microprocessor technology and an array of applications and instructional software. In addition, each site is a Wisc-Ware demonstration site—Wisc-Ware is a national clearinghouse and distribution network for instructional software developed under the sponsorship of IBM. Each center invites faculty from surrounding community colleges to participate in hands-on seminars to become familiar with current instructional technology. The goal of the project is to facilitate the transfer of instructional technology to community college faculty through conveniently located regional sites.

Second, with support from IBM, Johnson County Community College, in Overland Park, Kansas, has established the Community College IBM Information Sharing System, a database and clearinghouse function for the collection and submission of IBM-based instructional computing applications for community colleges. CCIISS is part of the national ISAAC network, an IBM-sponsored network of databases and associated bulletin boards for the purpose of sharing information about instructional computing software, resources and research in higher education. Previously, this system had been limited to applications for four-year colleges and universities.

Third, the League is conducting an IBM-sponsored competition to distribute an IBM PS/2, Model 30 microcomputer, with an IBM Proprinter II, the IBM Collegiate kit, and an authoring tool to 100 community college faculty members to encourage and support the development of academic software for use by community college faculty in all disciplines. The League has received over 300 proposals from faculty to develop new academic software or to translate existing software applications for use on the IBM PS/2 system. A national panel of experts will review the proposals and select the 100 to be awarded IBM's support for their work. Descriptions of these projects will be included in the ISAAC system.

## Twenty Years of Change and Commitment

This brief overview of the first two decades of the activities of the League for Innovation in the Community College has shown an organization that has changed to reflect the contemporary issues of its times. During its early years, community colleges

were just becoming full-fledged members of systems of higher education, and their most pressing concerns were curriculum and instruction. The League's first major activities were in these areas. During its middle years, the League focused on projects related to the same social issues that had the attention of the nation: health, energy, the environment, and productivity. In the 1980s, the League has continued many of its previous activities, while adding major new initiatives in leadership development and computer technology, again reflecting the national agenda.

Also in this decade, the League has matured and become a more complex organization. In 1985, the League became international with the addition of its first community college from outside the United States, Humber College of Applied Arts and Technology in Toronto, Canada. In its early years, the League was self-contained. Its activities were confined to its members, and its alliances were primarily with a few graduate programs preparing community college leaders. By the 1980s, the entities with which the League collaborated on projects numbered over 50 foundations, associations, governmental agencies, and major corporations. Its resources were being drawn from equally diverse sources.

By the 1980s, the League was sponsoring bi-national conferences attended by hundreds of administrators, faculty, and staff from community colleges throughout North America. It was conducting major competitions, networks, and other projects that involved hundreds of community colleges. Its publications were distributed to every community college in the United States and Canada, and its influence was being felt throughout the community college movement.

Also, in the twenty-year history of the League, its membership has continued to change. A few early members lost interest, dropped out, and were replaced by eager, new members. Other colleges were unable to devote increasingly scarce resources to League activities and resigned. The leaders of member colleges changed, and in some cases, their successors did not share the same commitment to innovation. League membership grew from twelve original members to a high of nineteen districts. But in 1988, the League consists of sixteen resourceful community colleges. Only six remain from the original member colleges, and only one is represented by a charter member of the Board of Directors that met in Santa Inez in 1968.

Nonetheless, important League commitments have not changed in its twenty years. The League remains exclusively committed to its founding purposes to experiment and innovate in all areas of community college development. It remains committed to the operating principle of a small and effective working group of resourceful institutions, despite considerable pressure to expand its membership. Perhaps above all, the League continues to depend heavily upon the involvement of its members in the work of innovation. The League functions with only a small staff coordinating the involvement of member institutions in its conferences, publications, and special projects, for it remains an organization that belongs to its members.

CHAPTER TWO

# INNOVATIONS IN INSTRUCTION

If unforeseen circumstances were to force the League for Innovation in the Community College to limit its activities to only one area, undoubtedly the choice would be the area of instruction. The desire to improve instruction is what gave birth to the League, and it continues to be the heart of its operations. Indeed, activities in all other areas, from leadership development to institutional management, actually have the improvement of instruction as their end goal.

The pioneering efforts of League colleges which have received the greatest recognition, and are the ones most "borrowed" by other colleges, are those related to instruction. This chapter describes some of those pioneering efforts, as well as some more modern ones.

**Individualized, Self-Paced Instruction**

When the League for Innovation formed in 1968, individualized, self-paced modes of instruction were receiving much national attention. In part, this was due to large numbers of students entering community colleges, including baby boomers and Vietnam War veterans, but also it was because technology offered more options for instructional delivery.

Proponents of machine-based education made a number of powerful arguments. First, machines treated each student equally and methodically, never missing any vital link in the chain of information. Second, machines did not get tired or impatient, and could be made available at locations and times beyond those traditionally offered. Third, once perfected, they could be used over and over again. Thus, while they were costly to start, they promised eventual cost-effectiveness.

One name that stands out as a spokersperson for individualized, self-paced instruction is Samuel N. Postlethwait, a botany professor who developed audio-tutorial lessons for his classes. They proved popular with his students and led to improved student performance on examinations. Two years before Postlethwait would publish a

major work on his experience, individualized, self-paced instruction had come to the attention of the nursing faculty at Delta College, Michigan.

***Delta College***. In the summer of 1963, the Delta nursing faculty travelled to Purdue University, where Postlethwait was teaching. After three weeks of observation, discussion, and study, they returned to Delta determined to establish a multi-sensory nursing program using a wide variety of instructional formats. With the help of a $400,000 grant from the United States Department of Health and Human Services, the faculty produced over 175 film loops, each demonstrating a specific nursing procedure or technique, along with comparable numbers of audio tapes and printed materials. Eventually, these materials were marketed by a major publishing company and distributed widely throughout the United States as well as in several foreign languages throughout the world.

***Central Piedmont Community College***. The Postlethwait influence would spread to most schools and colleges in one form or another in the 1960s and 1970s. At Central Piedmont Community College in North Carolina, it was first introduced in 1969 in the form of a self-paced, individualized laboratory for teaching automobile mechanics. In individual workstations, students could disassemble, test, re-assemble, and operate electrical components, all the time under the guidance of specially prepared color slides and audio messages. Student performance improved with the new flexible instruction which tripled the amount of hands-on experience in laboratory instruction.

***Humber College of Applied Arts and Technology***. One of the most ambitious and productive efforts in the realm of individualized learning can be found at Humber College, Toronto, Ontario. Humber serves as a national distribution center for the DACUM (Developing a Curriculum) Exchange, an up-to-date resource file of over 500 occupational analysis charts. Each chart actually represents an instructional program, with specific skills and tasks objectively defined with testing modules to determine where a person belongs on a "band of skills" in a particular field. The DACUM charts make it possible for a student to enter a competency-based program at the place best suited to his or her existing abilities and skills.

The DACUM idea began with the Jobs Corps in Ohio in the late 1960s, and later found a home in a number of U. S. institutions. Despite a number of efforts, it did not take hold in Canada, however, until the early 1970s when Humber, strongly committed to non-traditional education, became the national leader.

At Humber, a Program Development Department provides assistance in the formulation of DACUM charts upon request. With the guidance of a trained DACUM facilitator, a chart is developed by a committee of ten to twelve people employed in a specific job, who meet for three-day intensive workshops to identify, through formalized brainstorming, the necessary task skills. Once in place, the Humber staff continues to monitor and improve the charts.

DACUM charts are now used widely in Canadian colleges and in business and industry. They have become a training and development tool for national associations in Canada, and are part of the basic language for training in business and education. The British Columbia Institute of Technology and Holland College on Prince Edward Island use the process to develop their competency-based programs. Most recently, Humber

has integrated over sixty programs of computer-assisted instruction into a Health Care Software Library which is shared with community colleges across North America.

**Basic Skills Programs**

Early junior colleges often had entry requirements similar to other colleges and universities, but as they democratized and redefined their role as community colleges, they came to stand for an "open door" admission policy. To handle those coming through the door who were not prepared for college work, most institutions established sub-level courses which had to be completed successfully before moving up to college-level programs. These sub-level courses were often identified with numbers beginning with zero to put an unmistakable stamp on the college transcript of their unworthiness.

Rather than remediation, these early courses usually resulted in students learning that they were not "college material." As they exited in large numbers, it became common to speak of a "revolving door" in community colleges. Sociologist Burton Clark claimed that community colleges performed a "cooling-out" function by lowering student expectations (1960). Simply placing remedial students in separate classrooms did not seem to help them advance into the regular curriculum.

When the League for Innovation entered the scene in 1968, it wanted to show that community colleges could help under-prepared students to succeed. Individualized, self-paced instruction, which was proving its effectiveness in developing specific skills in science and health education, seemed a logical starting place for programs attempting to build the basic reading and writing skills needed by every student. League member colleges were early leaders in such individualized learning efforts, and in finding other innovative ways to improve basic skills education.

***St. Louis Community College***. St. Louis Community College at Forest Park was one such early leader in basic skills education. The General Curriculum Project was recognized nationally as a model basic skills program in the 1960s in *Against the Odds* (Moore, 1970). Successful at first, over time some of the very people the program was designed to assist resisted its offerings. Criticisms arose related to the lack of clarity about how one moved from the general curriculum into the mainstream. Some students in the general curriculum found a warm cocoon in the program and seemed to fear leaving it and risking the higher level programs.

In 1980, the Forest Park campus initiated an all-college task force on assessment to consider a better approach. The task force recommended the creation of the Learning Achievement Center which would incorporate existing remedial labs and services and also include new tutorial, developmental, and special problem solving programs. Further, it was recommended that the center serve all students, from the academically disadvantaged to the honors student, from the full-time student to a walk-in seeking short-term help.

All of the task force recommendations have now been implemented, and the Learning Achievement Center has become an integral part of the college. In its operations, the center involves the regular faculty in a variety of ways, making it more of a service center than a stand-alone program. For example, the center staff will help

faculty members analyze the reading level of textbooks and other class reading materials, an important aid in determining standards and prerequisites. The staff also provides and coordinates individual tutoring services, and is available to conduct study-aid short courses to fit particular course needs. Students of all abilities can come to the center to advance their learning skills to a higher level. With a mix of regular faculty and students of all abilities, the Learning Achievement Center at Forest Park has broken out of its cocoon and into the mainstream of the academic program of the college.

Basic skills programs, once an innovative concept, have now become part of the established practices of community colleges. A 1987 League survey found expanding activity in this area in all League districts, including specialized centers, pre-college programs, displaced worker training, and in-service training on basic skills education for faculty and staff. Seventy-five major centers and programs were found operating in League districts (Scott).

***Central Piedmont Community College***. Central Piedmont Community College, in Charlotte, North Carolina, saw a need for innovation in the 1980 census report which revealed the startling fact that the nation contained 27 million functional illiterates, many of whom were unemployed. In North Carolina's Mecklenburg County, the heart of the college's service area, resided 80,000 of the unschooled army. The local economy was becoming increasingly service-oriented, with a need for technical and skilled workers, making the employment outlook for the functionally illiterate still bleaker. So the college submitted a plan to the State Department of Community Colleges to extend literacy education throughout the county, but it was denied due to a revenue crisis. Denied, but not less determined, the college turned to the community.

Central Piedmont produced a videotape, "The Economic Timebomb," dramatizing the economic consequences and the personal impact of illiteracy on the community at large, and showed it to business and community leaders. With it went an appeal for financial help to acquire computers and enabling software, and for community volunteers to assist in the campaign against illiteracy. Support flowed in, and the college opened its first ABLE Center (Adult Basic Literacy Education) in a shopping mall in July, 1983. Since then, the program has expanded throughout the community, offering instruction at a worksite, in a prison, and in various local centers. In January of 1988 ABLE began its seventh center by invitation of an inner-city YMCA.

The success of the ABLE program is evidenced by its growing enrollment, student expressions of satisfaction, and the tremendous involvement of volunteer tutors. Over 4,500 adults have enrolled in the ABLE program. In a random-sample follow-up study conducted in 1986, an astounding 100 percent of respondents reported that ABLE helped them achieve their goals. Eighty-six percent planned to continue their education at the college. In addition, over 600 volunteer tutors have contributed more than 17,000 hours of their time since the program began. As a result of computerized and individualized instruction, reading students average one grade level of improvement for every 33 hours of instruction in reading, and advance one grade level in math in eleven hours.

Five other North Carolina community colleges have adopted the ABLE approach, and replications or variations have been established in 25 other states and three

other nations. Perhaps most satisfying to Central Piedmont Community College, however, is the continued support from area business and community leaders, including the United Way Human Services Planning Board.

***Johnson County Community College***. Johnson County Community College in Kansas has emphasized the importance of content instruction as an integral aspect of basic skills. The staff at Johnson County came to the conclusion that it was difficult to teach skills separately from cognitive knowledge and the formation of ideas. They developed a three-phase program to help students improve their basic skills and at the same time improve their general knowledge and conceptual skills.

In the first phase of the Johnson Country program, students learn a core of task-specific strategies known as the Strategic Learning System. During the second "generalization" phase, acquired strategies are maintained while also transferred to other classes and out-of-college situations. In phase three, students employ the "executive strategy" to examine their own cognitive learning styles and to devise personal strategies to create effective learning systems.

To assist the transfer of learned skills to real world situations, learning strategies are offered in conjunction with content courses. By doing this, students can make important connections between acquired skills and relevant content. Students become actively involved in determining why, when, where, and how the skills can best be used to enhance the learning process.

Early evaluations of the use of the Strategic Learning System, along with the generalization and executive strategy phases, are encouraging. In the introductory psychology course of the mainstream curriculum, students who went through the program averaged one full grade point higher than did non-participating students. In addition, the completion rate was significantly higher for the learning system students—96.6 percent compared to 75.2 percent.

The importance of basic skills programs still lies at the heart of community college education. In 1986, the Board of Directors of the League for Innovation approved a recommendation that the League place high priority on project activities related to under-prepared students for the remainder of the decade. Included in the recommendation were the following activities: (1) publication of individual college projects; (2) a survey of current practices; (3) a special focus meeting on the subject for League representatives; (4) special efforts to direct projects with computer partners toward the subject; and (5) a special focus on the subject at national conferences for the following three years.

Two factors led the Board to emphasize the high priority of attending to the needs of under-prepared students. One was the realization of the high rates of functional illiteracy among the general population, and especially among the students entering community colleges. The second factor was that racial and ethnic minorities were especially burdened with the problems of the under-prepared. Some surveys have estimated the functional illiteracy rate of Hispanic teenagers at nearly 50 percent and at 44 percent for black teenagers. While all League programs make a concerted effort to encourage minority participation, none were considered more basic to the advancement of aspiring students than programs for under-prepared students.

## Honors Programs

As colleges began to focus on distinctive groups in need of special attention, in the late seventies they rediscovered a clientele whose needs had not been addressed since the days of Sputnik—high achieving students. A League for Innovation sponsored survey in 1984 found that nearly twenty League colleges had instituted honors programs since 1979 and that another ten had such programs in the planning stage. Often scholarships are used to help attract talented students, and enriched courses and expanded academic experiences are designed to challenge their abilities (McKeague).

***Miami-Dade Community College***. The College Honors Program at Miami-Dade Community College grew out of a 1976 re-accreditation self-study that emphasized the need to restore a balance between access and excellence by paying more attention to the quality of instruction for the most able and most highly motivated students. The program began by simply offering a variety of options for academic enhancements, but the lack of cohesiveness bothered students and faculty. Eventually, three goals were established which led to a more unified curriculum.

The first goal of helping students see relationships and connections among academic fields was addressed by team-taught, interdisciplinary first-year classes. Second, the goal of enrichment determined that second-year classes would permit students to explore facets of material normally omitted from regular courses. Finally, the third goal of promoting independent learners led to a capstone experience, a substantial individual research project that students could carry with them when they applied for admission and scholarships at upper division colleges and universities.

To receive full honors, a student must complete eighteen credits in the honors program, including a capstone project. Other activities include a speaker's program and unique cultural affairs presentations. High grades and test scores do not automatically mean entrance to the honors program; recommendations from high school or college faculty members and counselors are also required, along with the applicant's statement of desire and commitment. When a scholarship program was offered to attract the top ten percent of public and private high school students in the county, an astounding 40 percent of those eligible applied and were admitted.

Additional numbers of high-ability, motivated students, including many adults, enter the program after attending Miami-Dade for a term or more. The size of the Honors Program is growing rapidly. Recently, the Honors Program began summer programs for gifted junior high and high school students which serve to further the awareness of the high academic quality of the college.

Miami-Dade began sending representatives to the annual conferences of the National Collegiate Honors Council in 1981, and helped to re-establish that organization's Two-Year College Committee, which had been disbanded because of a lack of participation. From three members in 1981, the committee has expanded to over fifty. Miami-Dade was the first two-year college to gain a seat on the NCHC Executive Committee and, in 1985, the college hosted the 21st Annual Meeting of the National Conference.

***Dallas County Community College District.*** Richland College, in the Dallas County Community College District, began its Honors Program in 1982. It has developed into a program that currently serves about 250 students each semester, in 25 classes spanning six academic disciplines. Honors classes consist of components of discussion seminars of reduced size that are writing intensive, student-centered, and often interdisciplinary in nature. Eligible students may take a single class if they wish, or aim for an Honors Certificate, which requires the completion of four honors courses, or achieve the distinction of an Honors Scholar by completing seven honors courses. Dozens of activities for honors students are also arranged through the Honors Program Office, which is directed by a faculty member as 60 percent of load.

Two aspects of Richland's Honors Program stand out. The first is that the faculty consists of five interdisciplinary teams of three faculty members each, reconstituted each semester so that new ideas flow into the program. So far, by voluntary assignment, there is about a 50 percent changeover each year, as new regular and part-time faculty are attracted by the challenge of the intensive programs and others return to regular classes. In this way, along with the rapidly changing student body of a community college, innovation is practically built into the program.

Also noteworthy about the Honors Program at Richland is the fact that it has attracted so many adult learners, who make up over half of the enrollments. They seem especially interested in courses where open discussion and experimental connections are encouraged. Richland has been influential in the establishment of honors programs at the five other campuses of the Dallas District, and others in Texas and the nation. In 1987, the Dallas County Community College District, and especially Richland College's Honors Program, hosted the National College Honors Conference with over 1,000 participants.

***Moraine Valley Community College.*** The Honors Scholars Program at Moraine Valley Community College in Illinois started in 1984, and presently enrolls over 150 students each semester. Also directed by a faculty member, the college offers most of the courses and activities associated with programs of this type. Because of the diversity among its honors students and a desire to maintain a flexible program, Moraine Valley builds its schedule of honors courses upon student requests. If seven or more students express interest in a particular course, it is offered. And, for any number less than seven, tutorials are made available based upon a plan of study arranged between each student and a faculty tutor. This flexibility has proven popular with students and faculty members, and it has added new dimensions of academic excellence to the college.

Other successful aspects of honors programs can be found in a 1984 League survey. Eighty-four percent of the surveyed programs reported the use of advisory committees, which were ranked as very important to the success of the programs. Ninety-five percent of the programs employ a director or coordinator, usually a faculty member with 40 to 60 percent released time for the activity. Students reported that the three most important features of an honors program from their perspective were, in rank order: scholarships; special privileges, such as early registration; and specially designed courses, seminars, and workshops.

## International Education

Community colleges are uniquely American in origin, and their evolution has been largely related to local, state, and national environments. However, boundless energies and expansive curricula have led some colleges into the many-faceted field of international education. The League for Innovation itself has sponsored and directed a number of international education projects.

Between 1972 and 1976, the League sponsored a series of summer seminars abroad in cooperation with the U. S. Office of Education. These opportunities enabled over 100 faculty members from League colleges to study in Yugoslavia, Egypt, India, Jordan, and Mexico. Many of these individuals would later be major players on their own campuses in international education.

In 1980, the League for Innovation and the National Council for Science and Technology of the Republic of Mexico inaugurated a new program—The Mexican/U.S. Technology Transfer. The three-year project allowed for selected Mexican students to enroll in League colleges and receive specialized technical training. With funds of over one-half million dollars from the Republic of Mexico, 239 Mexican students were trained in League colleges. Project Columbia was another three-year project started in 1983 in cooperation with the Asociacion Colombiana de Universidades, with major funding provided by the U. S. Information Agency. The project would have created a network among the 43 Columbian universities and League colleges, and provided for faculty exchanges for periods of from three weeks to one year, but political problems in Columbia caused the program to be suspended after the first year.

***Foothill-DeAnza Community College District***. Situated on the Pacific Rim, the Foothill-DeAnza Community College District in California has also become actively involved in international education. The International Work Experience Program at Foothill College offers students the opportunity to work in Europe for ten weeks during the summer, and in turn offers European students an opportunity to work in the San Francisco Bay Area. Foothill also makes this program available to students from other colleges and universities, helping them to find jobs and housing. Several hundred students participate each summer.

Credit courses are required along with the program, and students report that the first-hand experience of living and working in a foreign country adds additional meaning to learning about other cultures. The Foothill-DeAnza District also features a Campus Abroad Program, which has programs in London, Paris, Kyoto, and Salzburg. Students are immersed in international culture for approximately eight weeks of classes and field trips led by regular Foothill instructors.

A special feature at Foothill College is the Japanese Cultural Center, built in the early 1980s entirely by private donations, including generous contributions by Japanese companies operating in the Bay Area. Master carpenters were brought from Japan to create the wood interior and genuine tea room which attracts hundreds of students, leaders of business and industry, and artisans from the United States and Japan each year. Similarly, Japanese landscape architects crafted the exterior gardens to give students a true taste of Japanese life and culture. Dozens of workshops on the tea ceremony,

kimono construction, and food and holiday preparations are held each quarter. Special events such as lectures by Japanese business leaders visiting Silicon Valley, and "moon viewing" and other traditional festivities are held to acquaint the community with Japan and to continue on-going fund raising and developmental efforts.

Foothill College has incorporated all of its international education activities and programs in 1986 into the Institute for International Studies. The institute offers an associate of arts degree in business with a specialization in international studies emphasizing global issues, economics, history, comparative governments, languages, and culture. It also offers foreign languages including Japanese, Chinese, Hebrew, German, French, Spanish, and Italian—considerably beyond the language offerings of most community colleges. Finally, the institute assists with faculty and student exchanges for cultural enrichment and educational growth and sharing. Such exchanges have occurred with faculty and students in China, Japan, Mexico, Canada, England, and France.

## General Education and the Humanities

From the early interest of B. Lamar Johnson in general education, the League for Innovation has continued to support the importance of broadly-based, interdisciplinary efforts to expand the perspectives and experiences of community college students. In 1969, the League offered a special workshop on general education. League college presidents and chief academic officers worked with the Danforth Foundation on methods of improving liberal education in a 1978 seminar held in St. Louis. And in most of the League's instructional workshops and seminars, it has insisted that participants be drawn from a variety of disciplinary fields to encourage interdisciplinary cooperation.

***Kirkwood Community College***. The story of humanities development at Kirkwood Community College demonstrates that the best innovation is sometimes a revitalization of tradition. When a group of fifteen faculty and administrators reviewed the state of humanities at the college in 1979, the picture was far from bright. Fewer and fewer students were taking humanities courses; students' selection of humanities offerings was sadly imbalanced; humanities faculty lacked a sense of cohesiveness and common purpose; the visibility of humanities on campus seemed to be fading even as the college itself was experiencing dramatic growth. In the view of the study committee, these problems were undermining the entire curriculum, not merely one department. With the aid of a pilot grant from the National Endowment for the Humanities, interdisciplinary steps were taken that have turned the problems around and have led to a rebirth of humanities.

The first step was the development of Encounters in Humanities, an interdisciplinary course designed to apply a critical inquiry method to particular aspects of poetry, painting, architecture, drama, rhetoric, music, philosophy, mathematics, and history. The interdisciplinary approach was enthusiastically embraced by both faculty and students, and was expanded in 1983 with the development of a new associate of arts core program which increased the number of general education courses required for gradu-

ation and ensured a better balance of courses in the humanities. In 1984, William Bennett's *To Reclaim a Legacy*, based on a National Endowment for the Humanities national study, cited Kirkwood Community College as a "bright spot" in the humanities, proof that a college need not be elitist to become a true community of learning. With a 93 percent increase in enrollment, and improved collegiality and camaraderie among students and faculty, Kirkwood continues to profit from these efforts.

***Dallas County Community College District.*** Dallas County Community College District turned its attention in the early eighties to the question of what common knowledge should be acquired by all college students, regardless of discipline or vocation. Concerned about too much of a cafeteria-style curriculum, an interdisciplinary, district-wide Common Learning Committee was established in 1981. For the next four years, the committee examined the curriculum, listened to the views of students, faculty, and administrators on what should belong in a core list of common learning objectives, and debated how the colleges should structure their requirements and course outlines to assure proper attention to general education.

The report of the committee led to the first multi-disciplinary, general education project in the twenty-year history of the seven-college district. The Common Learning Project was to define, design, offer and require common learning of all district degree recipients, including both academic and technical-occupation majors. The scope of the project was to range from course outlines to graduation requirements.

Newly defined degree requirements went into effect in 1986. They consist of three core courses: English composition, speech communication, and college-level mathematics. All students must enroll in all three courses during their first year of study, and must earn a grade of C or better in each course to satisfy degree requirements.

After meeting core requirements, students are then required to take designated courses in four distributive areas: the humanities, social and behavioral sciences; laboratory science; and business. Those seeking the associate of arts and sciences degree, designed for academic transfer, must complete 34 to 36 hours of distributive requirements. Those seeking the associate of applied arts and sciences degree, designed for technical-occupational job entry, must complete at least six to eight hours of distributive courses in subject areas the most unlike those constituting the major area of study.

Curriculum review and course revision called for in the Common Learning Project has been ongoing since 1984. So far, 81 courses in required areas and in all developmental studies subject areas have been reviewed and revised to assure connecting objectives and some minimum commonality of content. Faculty project teams representing each college and the disciplines at hand have been responsible for course revision and for ensuring interdisciplinary approval of changes in the courses. Each team is led by a teaching faculty member receiving released time for project duties.

Over-arching goals for the Common Learning Project are embedded in *Skills for Living*, a document which has been developed over a ten-year period with the help of advisory meetings with business and community leaders from Dallas and throughout the country. *Skills for Living* focuses on the importance of a citizen being able to function competently within nine realms: self, others, environments, production, consumption,

community, creativity, anticipating the future, and lifelong learning. As the project teams review and revise course offerings, goals and objectives that address these nine realms are required to be stated and made available to all faculty.

The Dallas Common Learning Project has attracted a great deal of attention throughout the country, and was presented in a recent national conference on "Integrating the Humanities in the College Curriculum" at Princeton University.

***Monroe Community College***. Monroe Community College in Rochester, New York, chose a more concentrated approach to achieve interdisciplinary learning. Surveys of students, nationally and locally, revealed a woeful lack of knowledge about the Holocaust and some distressing signs of anti-semitism. Monroe faculty from the social and behavioral sciences worked with the Rochester Bureau of Jewish Education, as well as other clergy, educators, students, and community leaders, to design a unique educational effort. A single course or program was not deemed sufficient to accomplish the desired goal of better Holocaust-genocide education, so modules were developed that could be integrated into the existing curriculum. In addition, the project planned a public film series, a major pictorial exhibit, a visiting scholar lecture series, and a resource collection of videotapes, films, books, and archival material related to Holocaust-genocide studies.

While the project is in its early stages, it has already produced benefits. "Auschwitz: A Crime Against Mankind" was an exhibit opened in the summer of 1987, assisted by approximately 100 docents, including a core group of 30 survivors of the Holocaust. Over 10,000 people have been guided through the exhibit. An academic conference on the Holocaust is being planned for 1988, along with numerous other events to promote a better understanding of this tragic episode in the history of humankind.

## Special Instructional Environments

Some rather unusual programs have resulted from the efforts of League colleges to provide innovative learning environments. Three that have achieved a national reputation involve a campus zoo, an archaeological site, and an historical landmark.

***Santa Fe Community College***. Santa Fe Community College in Florida identified a need to train entry-level animal care specialists for zoos in 1970, and with the opening of a new campus in 1972, decided to devote ten acres of mixed woods and grasslands to a teaching zoo for the Animal Technology Program. Students helped to construct habitats for gibbons, arctic foxes, lemurs, ocelots, margays, peccaries, guanacos, and springboks. Numerous enclosures were built for a wide variety of birds, such as hawks, swans, tauracos, and psittacines. In 1984, the zoo perimeter was enlarged another four acres to accommodate grassland exhibits representing the South American pampas and African plains.

While the Zoo Animal Technology Program would remain the primary focus of the Teaching Zoo, it naturally attracted the interest of other students and members of the community. In 1980, an advisory board was created which included a number of professionals from the zoo field. General education courses have been developed which

allow students to gain an understanding of animals and their environments using the zoo as a laboratory in addition to regular usage in botany, biology, and zoology classes. About 10,000 grade school students visit the zoo each year as part of educational programs, and about 3,000 people attend each of the two open houses held annually.

Graduates of the Zoo Animal Technology Program have found jobs in many animal fields, including veterinary technologist, park ranger, and zookeeper in 66 zoos around the country. Their hands-on training, working with 231 specimens of 75 species, often gained them preference over applicants with four-year degrees in zoology and biology who lacked practical experience. In 1986 the American Association of Zoological Parks and Aquariums inspected and accredited the Teaching Zoo, making it one of 119 zoos recognized by the association for quality.

***Monroe Community College***. Monroe Community College has enjoyed similar success with an archaeological site on campus. The suburban Rochester, New York, campus contains the remains of a 19th century farm, which has been excavated on a continuing basis since 1973 by anthropology classes. Students receive training in site detection, excavation and dating techniques, artifact retrieval, identification and analysis, computerized data entry and sampling techniques, the use of field logs, and artifact preservation and display. Each summer since 1984, the college has offered a computer-archaeological field school for highly motivated junior and senior high school students. Educational and community tours are frequent, and a lively 35mm slide orientation to the "dig" is widely used. National attention has been attracted by the joint publication of the college and the Office of the County Historian, *The Life and Death of the Family Farm*, which chronicles the transition of the site from the days of the Iroquois and early European settlers to the current high-tech, fast-food era.

***Foothill-DeAnza Community College District.*** A distinguished center for the study of local, regional, and state history can be found at DeAnza College. The published collection of student research papers in 1968 led the next year to the formation of a private foundation to establish a permanent California History Center on the campus. Along with helping to finance historical research, publications, and archives, the foundation raised one-half million dollars to restore Trianon, an 1892 historical landmark building on the DeAnza campus, which was occupied by the center in 1979.

The center has created over twenty changing history exhibits, several of which still travel to museums and other sites across California. It has published 32 books, completed over 250 audio and video oral histories, produced video history programs, and presented scores of special history lectures and events. The foundation has a community membership of over 600 and has raised almost one million dollars since its creation. The staff and students from all parts of the campus enjoy the resources of the California History Center, and many are involved in its operations

The variety of innovative instructional programs does not end with the sample provided in this chapter. Later chapters will continue to expand the parameters of instruction and other community college services. The League for Innovation in the Community College began twenty years ago with an emphasis upon instruction and innovative instructional programs and systems, and today it continues to keep instruction at the forefront of its goals and activities.

CHAPTER THREE

# INNOVATIONS THAT SERVE NEW CLIENTELE

Although open door institutions, American community colleges do more than simply wait for students to find their way to the door. To serve the non-traditional student, methods have to be found to motivate those who are not likely to find their own path to the college. And for those who are homebound, or who live in remote areas, the college needs to find methods to provide instruction that is accessible.

This chapter presents some examples of how the League colleges have served new clientele. Through the innovative use of television, special services for handicapped students, outreach programs, recruitment of minorities, and more efficient student registration and student service packages, much has been done to attract and serve new types of students. Also, by re-establishing strong ties and cooperative programs with high school districts, community colleges have returned to their roots for additional nourishment.

## Reaching Out With Television

Ever since television entered most American homes in the fifties, educational applications have lagged behind its entertainment function. League founder B. Lamar Johnson noted in 1969 that the "role and function of television in the junior college, as in the totality of American education, is currently unclear, and practices are in a state of flux" (p. 137). That same statement could apply to most of education today, but strong exceptions would have to be made for the efforts of some League member colleges.

***Delta College.*** Michigan's Delta College made an early commitment to the use of television in education; when constructed in 1960, all buildings were wired for closed circuit broadcasting. In 1964, Delta turned on the power to start the operation of a public television station, becoming the third community college in the nation to do so. Over the years, Delta has developed its television potential into an impressive array of programming and educational applications, including a radio and television instructional curriculum and narrowcast programming for training programs in local compa-

nies. Public programming includes a variety of call-in shows, featuring professionals in law, medicine, tax accounting, and real estate. One popular daily local program has aired over 3,600 times over a twelve-year span, possibly the longest running program ever presented on public television.

Michigan residents in the Delta area actively participate in program selection, and over 10,000 citizens are dues-paying members of the broadcast system. Hundreds participate in an annual auction which has been generating about $175,000 in revenues each year. Delta has offered its own classes for closed circuit and narrowcast uses and makes extensive use of other professionally developed courses for broadcasts to wider audiences. In the 1986-87 college year, 37 courses were offered, enrolling over 1,000 students. Individual cassette class tapes that can be checked out from the college library have proven to be popular supplements for these courses.

Delta's broadcast curriculum has been a valuable asset for the communications industry. One station manager remarked that if all Delta radio and television graduates were to attend an alumni reunion at the same time, television sets all over the state of Michigan would go black. In 1986, a sister station was opened in the "thumb" area of Michigan to bring the same benefits to that area of the state.

***Kirkwood Community College.*** Kirkwood Community College decided in the late 1970s to use multi-channel educational television to help serve its large and diverse district, covering seven counties and over 4,000 square miles. A decade earlier the college had constructed television production facilities to develop videotape productions of lectures, experiments, and demonstrations for on-campus use. Over 4,000 videos have been developed, and multi-channel technologies now allow much wider usage. Currently, Kirkwood operates a comprehensive telecommunications system with five different training networks which extend to almost 50 off-campus sites and into over 50,000 homes.

The technological backbone of the Kirkwood Telecommunications System is Telelink, an eight site, two-way, point-to-point microwave network. Through Telelink, multiple audio and visual channels allow a variety of two-way communications to occur simultaneously, permitting several class offerings at the same time in addition to other telephone and data communication uses. Currently Telelink is in use over 80 hours per week.

Four other networks are involved in the Kirkwood Telecommunications System. Each uses one channel of a four-channel Instructional Television Fixed Service (ITFS), a one-way video, two-way audio system. One channel is used for a secondary school network involving twenty school districts. Programming on this network includes shared high school classes, college classes for upper-level high school students, teacher in-service programs, and evening college credit and continuing education programs for adults. The second ITFS channel is dedicated to the educational needs of the Cedar Rapids School District, which uses it for student and teacher in-service instruction.

The third ITFS channel carries the Business and Industrial Training Network which addresses the in-plant training needs of area businesses. Non-credit seminars in management training, communications skills, customer service, and sales skills are

included, along with credit classes in pre-business, engineering and computer science. Currently there are five sites for this network in the Cedar Rapids area, with more in the planning stages.

The fourth ITFS channel actually operates through a cable channel which is received in about 54,000 homes in eight communities. This Kirkwood Cable Network is a full-service cable channel that provides a full schedule of daily video programming. Telecourses make up the primary focus of the cable network, but Kirkwood also schedules speakers, sports events, promotional information, and some programs permitted to be broadcast by satellite communications. Daily programming schedules appear in local television listings, and the service will be extended to at least five other communities during 1988.

***Dallas County Community College District.*** Television has also been an important emphasis in the Dallas County Community College District, mostly in the production of top quality television courses which are widely distributed. Starting in 1972, with the development of a course in American government, the district has produced seventeen other courses in basic subjects, such as English, business, sociology, earth science, and humanities. Today, DCCCD is the largest producer of such academic courses for college degree students in the nation. Its courses have been used at nearly 700 colleges and universities, the majority of which are community colleges in the United States and Canada. Carried by three satellite services and presented on Public Broadcasting Service stations, DCCCD telecourses are available to some 64 million viewers in all major television markets.

During fifteen years of telecourse production, many improvements have been made. From "talking heads" and mimeographed handouts, telecourses have become sophisticated instructional systems, combining professionally produced video and print elements into well-designed, integrated learning packages. The Dallas district has cooperated with other institutions and organizations to promote the highest levels of quality. The prestigious Annenberg/CPB Project selected Dallas as one of six institutions, from the hundreds that applied, to help produce a major telecourse on English composition, The Write Course.

In Dallas and elsewhere, television courses serve people whose lifestyles and commitments do not always fit into the traditional mode of on-campus instruction. Mothers with young children at home, handicapped individuals, retirees, and many already in the work force find telecourses the door to a valuable college degree. Surveys reveal that the largest percentage of telecourse students are women between the ages of 22 and 39, juggling the difficult roles of mother, wife, career-person and individual. Almost 300,000 students have enrolled nationwide in DCCCD-produced telecourses to date, with the numbers increasing dramatically each year.

## Other Efforts at Outreach

***Kirkwood Community College***. While television has proven an effective means for reaching off-campus populations, community colleges seldom employ that medium exclusively. At Kirkwood, for example, Telelink and the other networks are

complemented by a variety of outreach efforts. One of the college's major contributions to community education has been that of providing correspondence courses for more than 120 high schools throughout the state of Iowa. More than 700 Iowans, usually those unable to attend regular high school classes, have earned credit toward high school graduation through completion of one or more of the 43 courses available. In addition to the correspondence program, Kirkwood has cooperative agreements with 40 local school districts to provide adult and continuing education for their residents. While involving regular classes, the particular focus of this continuing education effort has been an ever-growing number of one-day workshops and seminars on varying topics of interest and on developing particular skills.

***Kern Community College District.*** Cerro Coso Community College, in the Kern Community College District in California, also faces the problem of serving students who are spread over a large area. Since the population clusters in three distinct areas, each at least 100 miles from the others, the college sought a way to deliver full service to each cluster. With a central campus established in 1973 at Ridgecrest, California, separate outreach programs were established for the northern and southern regions of its service area. The Southern Outreach Program serves a population clustered around Edwards Air Force Base, and it has many programs aimed toward enlisted personnel. With instructional facilities on the base, it has been designated as a Serviceman's Opportunity College. Through the outreach program, students can earn degrees in general education, liberal studies, and business education, without ever attending the Ridgecrest campus.

The Northern Outreach Program serves a mountainous area and a population of ranchers, retirees, U.S. Forest Service employees, and members of the Paiute and Shoshone Native American nations. This outreach program has evolved quite differently, developing training programs involving medical care, as well as special career programs offered in cooperation with the area Indian Career Development Center. Both outreach programs are administered by instructional deans who are charged with the responsibility of developing educational services to meet the needs of their areas and maintaining the same level of quality instruction that is available on the main campus.

## Serving the Physically Challenged and Learning Disabled

Efforts to improve the educational opportunities of persons with handicaps or learning disabilities in the past were usually limited to special centers for one particular group, such as centers for the blind or the deaf. Beginning in the 1970s, in part due to disabled veterans returning from Vietnam, a more comprehensive approach has been adopted, with the ultimate goal of mainstreaming the physically challenged into regular college curricula and activities. Today it is common to find state legislatures and federal programs mandating the new approach. Community colleges have played a major role in this transformation; in California alone, the number of disabled students in community colleges rose from under 10,000 in 1975 to over 54,000 in 1987.

***Kirkwood Community College.*** Kirkwood Community College pioneered a program for disabled students in 1966, and used $1,300,000 of its capital improvement

funds to build a special 24,000 square-foot facility. Named the Kirkwood Skill Center, it took over a sheltered workshop run by the county government and began to add other programs for the less severely handicapped. With other community agencies responsible for custodial and long-term rehabilitation work, Kirkwood became the provider of short-term, occupationally-oriented rehabilitation services.

Each student is assigned a counselor/program manager, and through intensive assessment and counseling, explores individual interests and job opportunities in the areas of business and office skills, food service, building maintenance, health occupations, drafting, woodworking, small engine repair, welding, and auto mechanics. Students spend about six hours a day in the vocational program under close supervision of instructor-evaluators. One special component of the program deals with work adjustment, including interpersonal relations, work habits, and productivity models. The center now serves over 350 persons with physical and social disabilities each year.

***Foothill-DeAnza Community College District.*** DeAnza College, in 1973, began an energetic program of architectural barrier removal on its campus, along with an active recruitment program for disabled students. Two new adaptive educational programs were designed, one in physical education and the other in geriatric education for institutionalized older or retired people. Together, the new programs added over 100 courses adapted to the special needs of these groups. In addition, DeAnza established the Educational Diagnostic Center to provide services, such as assessment, registration assistance, tutoring, basic skills instruction and the facilitation of test administration, to individuals who have learning disabilities. This center serves over 270 students annually.

A second program, Physically Limited Services, offers support services such as interpreters, readers, notetakers, transportation and registration assistance, and academic and vocational advisement for the physically, visually, and communicatively disabled. Another 200 students who are developmentally disabled, and capable of working in a sheltered workshop setting, receive individual program planning, work adjustment, and vocational training in the Hope-DeAnza Program.

***St. Louis Community College.*** A unique feature at St. Louis Community College at Florissant Valley in Missouri is the Theatre of the Deaf, which has received national attention for high quality performances done in sign language with simultaneous voice narration. In 1978 the college staged an adaptation of Victor Hugo's *The Man Who Laughs*, featuring a cast of twelve deaf and six hearing actors. The performance drew full houses and tremendous community acclaim, prompting the college to transform this innovation into a permanent part of the theater program. Classes in deaf theater studies have been added to the curriculum, and a guest artist program has been initiated.

In 1982 the Theatre of the Deaf was invited to perform for the National Association of the Deaf, and three former Florissant Valley students have continued their theatrical careers by performing with the prestigious National Theatre of the Deaf. The Little Theatre of the Deaf premiered in 1982 as a touring company for children's productions, and has presented some 200 productions throughout Missouri and Illinois.

Florissant Valley did not limit its efforts on behalf of the deaf to successful

theater. Since 1980 the college has offered an associate of arts degree in Deaf Communication Studies, the only such college-level degree program in the State of Missouri. In the 1987 fall term, 377 students enrolled in program courses, with 89 declared majors preparing for careers as professional interpreters.

***Johnson County Community College.*** Hearing impaired persons in the Midwest have also benefitted from the first Regional Extension Center of Gallaudet University, Washington, D.C. The center was started in 1975 as an integral part of the Johnson County Community College campus in Overland Park, Kansas. Beginning with a director, a secretary, and a dream to improve the lives of deaf people, the center has grown to serve an eight-state area, hosting over 100 activities a year, involving over 8,000 people. Activities are planned with other community colleges, parent groups, medical associations, hospitals, lawyers, educators, and deaf consumers.

The Gallaudet Regional Center and the College Special Services Program have combined to establish a program to train interpreters and offer help to educational institutions throughout the Midwest. They are currently planning an annual conference for all postsecondary programs within the service area. The successes of these programs have lead Gallaudet to open several other such regional centers in the nation, based on the model initiated at Johnson County Community College. One such center is located at another League member institution, Eastfield College of the Dallas County Community College District.

**Reaching Out to High Schools**

The original idea of the early American junior college was to integrate the first two general education years of college with the completion of the secondary school. Joliet Junior College, usually credited with being the first community or junior college, resulted from a special arrangement between Joliet High School and the University of Chicago. Similarly, the University of California at Berkeley was instrumental in the decisions of high school boards to start junior colleges in Fresno in 1911 and Bakersfield in 1913. All of these colleges began on high school campuses and usually shared facilities, staff, and students.

Over the years, as junior colleges grew into independent community colleges, with their own facilities and separate governing boards, their ties with the secondary system were loosened, if not severed. Community colleges too often neglected their natural connection to feeder schools in an attempt to become more respected members of higher education. And thus, in recent years, innovation has been needed to renew the bonds.

***Miami-Dade Community College.*** Miami-Dade Community College has developed a major comprehensive model of collaboration with the Dade County Public Schools which includes joint board meetings, joint curriculum committees and coordinating councils, cooperative work experience, and special programs for minority students and for gifted students. One such special program grew to include private schools and a state university and has become a nationally recognized entity in its own right—the New World School of the Arts in Miami, Florida.

**Innovations That Serve New Clientele**

The doors of this new institution opened in 1987, but its origins date back to 1975 when the Dade County Public Schools started a Performing Visual Arts Center as a magnet program in a high school with a large black student enrollment. Cooperative programs with Miami-Dade began in 1980 with dual enrollment courses and faculty collaboration on new offerings. The success of the program created rapid growth, and by 1982 courses were being offered throughout the county and drawing students from all 24 local high schools. Entrance to the program did not require standard assessment tests, but applicants were screened by a panel made up of the joint faculty, community artists, and students. To remain in the program, students were required to maintain a C average in all academic courses and a B average in all arts courses. One indication of the success of the program is that in recent years as many as 75 percent of its graduates have received scholarship offers to such places as Pratt Institute, Eastman School of Music, and American Ballet Theater II, along with the arts departments of dozens of colleges and universities.

With the Florida legislature interested in promoting more regional cooperative educational efforts, Florida International University was added as a partner in 1983 and plans were made for the new institution in downtown Miami, close to Miami-Dade's Wolfson Campus and a number of community performance halls and centers. The New World School of the Arts enrolled 405 students in grades 10 through 12 during its first year of operation, and the first year of college will be offered in the new facility beginning in the fall of 1988. In the 1990s, a master's degree program is planned, and students are expected to be attracted from other states and countries. Collaboration among the three partners is continuing, each appointing six members to the school's executive committee. In addition, a foundation board is being established to generate more community involvement and private funding. What began as one program in one high school is fast developing into one of the nation's finest institutions in the arts.

***Santa Fe Community College.*** Also in Florida, Santa Fe Community College has well-established cooperative educational ties with the Alachua County School system, including vocational education, dual enrollment, and community education. A 1974 agreement between the two governing boards designated Santa Fe as the vocational center for both districts, and 22 programs are currently in place.

In the cooperative program, high school credits can usually be applied to college degrees. An agreement in 1983 enables academically advanced students to shorten the time necessary to obtain a degree, broaden the scope of academic options, and increase their depth of study through similar dual enrollment provisions. Also in 1983, the two districts agreed to support a single office for community education with one director, an efficiency that has resulted in annual savings approaching $100,000. Community groups which request and often house these educational offerings, as well as the individuals who enroll in them, report increased satisfaction with a single source of planning and coordination.

***Kern Community College District.*** In California, Bakersfield College and the Kern High School District, allied since 1913, have developed a competency-based curriculum in agriculture for the 11th through 14th grades. This curriculum involves certificate, associate degrees, and transfer-level programs in six major areas: agriculture

business, animal science, crop science, forestry, mechanized agriculture, and ornamental horticulture. While both the college and the district have had programs in agriculture for over 50 years, these "two plus two" arrangements are recent and resulted in a new farm laboratory of 50 acres with a fully equipped, large swine farrowing and finishing facility along with beef and sheep barns. Administering and staffing the program are responsibilities shared by the two districts, assisted with a quarter-million dollar Fund for the Improvement of Post-Secondary Education grant. Parnell cites this joint project in *The Neglected Majority* (1985) as an ideal tech prep program, and it has been showcased at a number of national conferences.

Cerro Coso Community College, in the same Kern Community College District as Bakersfield College, has employed an art workshop to attract outstanding high school students. In the spring of 1985, 40 students from ten high schools in the far-flung district were nominated by their instructors to participate in a weekend workshop at the college. Room and board were provided since some of the high schools were many miles away, and also to add to the collegiate experience.

Workshop sessions focused on specific subject areas, such as life drawing, ceramics, sculpture, and printmaking. Special forums gave students a chance to explore areas of college study and activities. Visiting artists, a gallery reception, and an awards dinner in recognition of individual achievements all added special touches to the intensive two days of instruction and activity. In 1988, Cerro Coso will host the fourth workshop, with much help from supportive local art councils and high school instructors. Since the program started in 1985, half of the attendees have decided to continue their education at the college, and the number of art majors at Cerro Coso has doubled.

In 1987, a League Fellows project surveyed League colleges to determine what was being done to assist and encourage students to complete their high school programs. Including some of the projects discussed above, the survey reported on 65 activities in seven categories:

Special Programs & Services (17)
Articulation (12)
Disadvantaged or Minority Students (10)
Alternative Credit (10)
Basic Learning Programs (10)
Dropout Programs (3)
Elementary Focus (3)

The survey noted that some colleges have developed comprehensive regional strategies for enhancing the high school graduation rate, while others have followed a more individualized approach to provide technical and specialized support for students during the high school years. Of course, many have designed the programs to enhance recruitment efforts. Since many community colleges were formed from high school districts, their involvement in reforms that assist students on the road to higher education seems a natural outgrowth of their origins.

## Innovations That Serve New Clientele

### Reaching Out in Vocational Education

Later chapters will deal with major efforts among League colleges to build partnerships with business and industry. Two programs, at Humber Community College and at Kirkwood Community College, are included here to show how serving new clientele and developing new programs tend to develop together.

***Humber College of Applied Arts and Technology.*** In the late 1960s, Humber College leaders were approached by officials in nearby hospitals who were concerned about the need for continuing education among health care professionals. This concept was unique at the time in Canada because most of the prospective clientele already had professional degrees, and community colleges were not considered appropriate institutions for post-diploma programs.

Humber faculty and staff members responded, and three programs were designed that drew interest and enrollments: maternal/infant nursing; operating room technics; and coronary care nursing. The programs featured flexible design and delivery, yet maintained strong clinical components and appropriate theory. The high quality of the programs won the approval of the Ministry of Colleges and Universities, and Humber has been a major institution in serving post-diploma programs for professionals ever since. More recent post-diploma programs have been developed in public relations, journalism, and human resource development management.

***Kirkwood Community College.*** Kirkwood Community College in Iowa reached out to serve a new clientele in a traditional population, the farm population of the Cedar Rapids area. While Kirkwood had a number of agricultural programs in place, the 1980s crisis on small farms led the college to reach out to troubled farm families. One survey reported that eleven percent of area farmers had debt-asset ratios above 70 percent, a level at which experts predicted most farmers would be forced to leave agriculture. No problem was more obvious in the community served by Kirkwood.

In 1985 Kirkwood Community College launched the Kirkwood Rural Diversified Enterprise Center. One of the first projects of the center was a program of crisis counseling and workshops, both for farmers who had decided to leave farming and for those who were determined to improve their farming efficiency. The center then introduced intensive training packages designed to help farmers develop new profit measures for their farms. In the first two years of operation, seminars, classes, and counseling attracted more than 1,000 farmers. To date, the center has developed 21 training packages which provide ideas and instructions for farmers on various alternative profit enterprises, on-farm and in-home profit projects designed to help farm families gain non-agricultural income during the hard times. By combining programs for increased farm efficiency with new income-producing ideas, the faculty and staff at Kirkwood have helped many endangered farmers survive during the farm crisis.

### Reaching Out With Innovative Student Services

Student development professionals have always played a central role in community college planning and operations, in part, because of the vast diversity of

community college students and programs that require professional expertise both in counseling students and helping institutions meet student needs. It is also because the community college movement and the student development profession have grown up together, created and nourished by the same philosophy of human development and public education. Numerous League projects have been undertaken with the recognition that the best instruction may be inadequate if students are not given help in assessing their interests and abilities as well as the opportunity to develop the supporting attitudes and strategies which contribute to a successful college experience.

In 1971, the League held a workshop for student personnel staff, and also worked with IBM on computer applications. Later in the 1970s, the League held special conferences and workshops on assessment and reaching new populations of community college students. In 1987, a League task force developed a statement to guide student development practices, *Assuring Student Success: The Role of Student Development Professionals*, to coincide with the fiftieth anniversary of the seminal 1937 statement on student development issued by the American Council on Education. The document touches upon almost every aspect of the college experience, in and out of the classroom, and offers concrete suggestions for institutional practices, from the first contact with students to monitoring progress to documenting outcomes and follow-up studies. League colleges have a substantial record of innovation in providing services to make success in the college experience accessible to their students.

***Moraine Valley Community College.*** Moraine Valley Community College opened its College Service Center, in 1984, to facilitate student access. Architecturally, the center was designed as a "one-stop-shop" facility where students could be admitted, receive information, register, and pay tuition all at one place and at one time. The large structure surrounds a twelve-window kiosk, and at each window, or station, a service representative is prepared to provide a wide range of information and services. Each station is equipped with a computer terminal and cash register, as well as a telephone to handle call-in transactions.

Around the periphery of the College Service Center, specialty offices are available for additional assistance, including academic advisement and financial aid. Expeditors help students with paperwork, which is kept to a minimum, and other support information. Project facilitators are also nearby who can help students evaluate transfer credit, perform graduation audits, certify athletic eligibility, and process financial aid and veteran benefit documents. On the second floor of the structure, the Counseling Department is housed, making the whole range of student development services readily available.

***Central Piedmont Community College.*** The Testing Center at Central Piedmont Community College shares the goal of consolidating services in one place for the convenience of students and the coordination of institutional practices. Perhaps even more than registering, testing stands as a mine field for student aspirations. Even under the best of conditions, being tested is a difficult and trying experience, and too often the conditions make things worse. At Central Piedmont, the Testing Center provides a quiet, comfortable, unhurried environment, and one that assures test security. Not only does the center provide a good setting for aptitude and achievement testing, it also administers

examinations for regular academic classes. The student finds a better environment than usually exists in the classroom, and more classroom hours can be devoted to instruction.

Students and instructors are taking advantage of the Testing Center; over 40,000 tests were given in 1981-82, its first year of operation, and currently over 85,000 tests are being administered yearly. Increasingly, tests are being taken at computer terminals, but printed examinations are far from extinct. With extensive computer testing facilities, Central Piedmont is involved in a number of experimental national programs, including a League project with the Educational Testing Service and The College Board.

Central Piedmont Community College also has installed a telephone and computer registration and information system. Fully operational in 1986, sixteen computer-linked telephone lines permit easy registration, and the enabling software allows for the future monitoring of student progress. The new technology was only used by two percent of the students when first in operation, but quite rapidly, by the fall of 1987, twenty-five percent of new and returning students use the telephone system. As the system improves, even higher percentages of student use is expected. Newly added features include making schedule changes by telephone, and paying fees over the telephone with the use of credit cards.

Other League colleges have pioneered the innovative use of computers to facilitate student access and to provide a host of student services—perhaps none more than Miami-Dade Community College. These and other computer-related innovations are described in Chapter Six.

**An Innovation in Marketing**

Many innovations are really borrowed ideas applied to new environments. Education has often profited by borrowing ideas from the business world, but it has seldom matched the use of advertising power in selling its "product." Maybe that is because advertising is usually associated with toothpaste and medicines, necessary products to be sure, but made unsavory by exaggerated claims and obnoxious images. Besides, like eighteenth century politics that maintained the office should seek the man, not that the man should seek the office, educators often feel the student should seek the college, rather than the college seeking the student. However, if the mission of the community college is to reach the vast numbers of non-traditional students in the population, it could be that innovative advertising and marketing may be necessary to complete that mission.

***Dallas County Community College District.*** One such advertising idea has been successfully used as an educational innovation in the Dallas County Community College District. Not surprisingly, it originated from a meeting involving the public information director, concerned about the multitude of programs and offices and telephone numbers that abounded at the various colleges and the district office. "Wouldn't it be nice," one person observed, "if one could just dial 'C-O-L-L-E-G-E'?" That simple idea, borrowed from a common business practice, led to an innovative program in the Dallas district; Call C-O-L-L-E-G-E has met with great success since its introduction in 1986.

With the help of a media agency, a promotional campaign was planned, based on Call C-O-L-L-E-G-E. In a media mix, it was the focus point of newspaper advertisements, magazine and directory entries, radio and television spots, billboards, bumper stickers, and public service announcements. Thousands of calls came in, and they were either addressed by the receptionists or transferred to the appropriate campus and office. The benefits of this public relations program go beyond dialing convenience or the efficient transferring of calls; the advertising campaign has helped to project a strong and consistent image in the public mind of one unified educational institution.

Innovations that have resulted in a diversification of community college missions have raised concerns among the more traditonal members of the higher education community. There is room for concern if in attempting to serve new clientele, community colleges lose sight of their clear mission to provide college programs to traditional students. There is also room for concern if in attending to new clientele, community colleges extend their resources beyond the point where they are able to assure the quality of their programs. However, as the innovations described here make clear, League colleges have found ways to respond to the legitimate needs of their constituents, and by doing so, have become stronger institutions. A greater risk is taken if community colleges accept only traditional student populations and ignore their role as the most democratic segment of higher education.

CHAPTER FOUR

# INNOVATIONS IN STAFF AND INSTITUTIONAL DEVELOPMENT

Community colleges, as they have grown larger and older, have been confronted with the same set of challenges and problems found in any large, complex organization. Recruiting the right people, tending to their physical and emotional well-being, providing opportunities for development and advancement, developing sound evaluation systems, and finding workable methods of coordination and cooperation are areas continually in need of innovation and improvement.

In addition to these common areas of organizational structure and operation, community colleges have particular concerns which stem from their ambitious, wide-ranging educational goals. Administrators must be attentive to literally hundreds of departments, programs, facilities, community organizations, and governmental agencies while trying to apply limited resources to boundless needs. Faculty members face larger, more diverse teaching responsibilities than do their counterparts in most colleges and universities with students who range from the functionally illiterate to individuals holding advanced degrees. Technical, clerical and other support staff confront similar complexities in an institution with such diverse missions, facilities, schedules, and demands.

A recent study of American undergraduate college education by The Carnegie Foundation for the Advancement of Teaching stressed the importance of renewing faculty vitality, yet reported that in practice it was usually neglected. Only rarely did they find any portion of college budgets set aside for faculty development. (Boyer, p. 134.) Unfortunately, the Carnegie study only included baccalaureate-granting institutions, thus omitting community colleges altogether. If community colleges had been included, especially League colleges, the picture might have been a little brighter.

## Staff Development in League Colleges

The League for Innovation has been a major force over the past twenty years in staff development through its many conferences, projects, and publications. Thousands of staff members from League colleges have taken part in these programs, as well as

thousands from non-League colleges. The results of a survey of the staff development practices of League colleges, published in *Resources for Renewal*, reported that 70 percent of the 33 responding League colleges had a full-time person and/or a staffed office for staff development and instructional improvement. The League survey further documented that the staff development proportion of League college budgets has been increasing in recent years, despite overall budget restraints.

Over 90 percent of League colleges reported supporting traditional staff development activities: sabbatical leaves; professional travel and conference attendance; special grants to develop new programs or courses, or new approaches to existing programs and courses; staff development workshops and seminars; and evaluation systems which review the effectiveness of both probationary and regular faculty and staff members. Over two- thirds of the League colleges also reported annual awards for teaching excellence, a campus-wide committee on faculty development, and college-wide newsletters and publications which focus on staff development. In fact, several League colleges have developed comprehensive staff development programs that rival those found in any institutional setting.

***Cuyahoga Community College***. Cuyahoga Community College created an Office of Human Resources/Personnel Relations in 1974, promoting the supervising administrator to the level of vice-president. From what was essentially a record-keeping office, it has grown into a dynamic, full-service, professional human resources unit. It is responsible for all aspects of employee well-being, from the part-time custodian to the chief executive officer of the institution. Among the new functions acquired by this office was a merit pay plan for administrators, an employee self-esteem campaign, pre-retirement counseling, and special orientation and in-service training programs.

Cuyahoga Community College also began a "Scholar-in-Residence" program in 1981 to promote the academic image of the college in the community while at the same time enhancing the self-esteem of the faculty. More than attracting a renowned scholar to the campus, the program coordinates lectures, seminars, symposia, and publications. *The Cuyahoga Review*, published annually, reflects the theme of the year and may be the only journal of its kind, with a large subscription base, that is published by community college faculty.

***Maricopa Community Colleges***. The Maricopa Community Colleges have also played a leading role in experimenting with approaches to staff development that are somewhat unique. A Maintenance and Operations Crafts Training Program was started in 1981 which allows employees to enter four-year training programs in areas such as plumbing, carpentry, air-conditioning, and electronics. The program combines on-the-job training and academic course work, and has been particularly helpful in encouraging minority and female employees to enter the trades.

Maricopa also started internship programs in 1983 for their staff. The Management Internship Program draws from faculty and administrative staff and provides experiences, on a special project basis, in a variety of offices. Interns spend two weeks in the chancellor's office, three weeks in a college president's office, and four weeks in each of the three vice chancellor's offices. In this program, too, one of the goals is to attract minority and female applicants. Professional staff internships are individually

designed with the aid of individual mentors or a mentor group. The intern is given a leave with pay for up to twelve months, often for retraining or acquiring the skills to apply new technologies to existing programs.

***Johnson County Community College***. Johnson County Community College opened its Office of Staff Development in 1983, under the direction of a committee that includes representatives from all employee groups. Initially, the office tied its operations to Individual Development Plans which allowed staff to set their own goals and provided assistance in the form of grants and sabbaticals. As the college-wide committee viewed the commonalities among individuals' plans, it became aware of the institutional need for comprehensive developmental programs that reflected institutional, as well as individual, priorities.

One result of the expanded role of Johnson County's staff development activities was the planning of in-service workshops based on needs revealed in faculty evaluation reports, supervisors' recommendations, and student retention figures. Another result was the Faculty Consultant Program which employs highly successful teachers to mentor those faculty members encountering teaching difficulties.

***Moraine Valley Community College***. Moraine Valley Community College has established the Center for Faculty Evaluation and Program Excellence for all aspects of faculty development. It is directed by a large committee composed of two representatives from each academic subdivision of the college, along with representatives from counseling, library services, and college technicians, and two administrators from the Division of Instruction. The center administers faculty development programs and recommends funds for professional development, for the improvement of teaching, and for the improvement of performance in non-teaching assignments.

The center administers a wide range of developmental programs. Mini-grants up to $1,000 are available to faculty for activities beyond regular professional duties which promise to benefit students and the results of which can be shared with other faculty. The center also provides funds for off-campus workshops, seminars, and conferences which relate to staff development and are not fundable through subdivision budgets. Another function of the center is to encourage and fund visits to other institutions, especially those neighboring institutions with which articulation is a special concern. In a related function, the center administers funds for visiting scholars and other experts who are brought to campus for special seminars and workshops.

In addition to administering the programs noted above, the directors of the center also are responsible for informing the faculty of various opportunities for development, for planning in-service activities, and for recommending or denying applications for sabbatical leave. The directors also are involved in the selection of two faculty members for prestigious awards each year, the Master Teacher Award and Professor of the Year.

***Delta College***. As a result of the collective bargaining process, Delta College established a professional development allowance for every faculty member. The allowance can be used for a variety of professional and instructional purposes, and is completely under the supervision of the teaching faculty with no prior approval required by department chairs or deans. One important condition is that the faculty members had

to match the allowance with personal funds for any expenditure. Starting with a small sum in 1970, funding has increased substantially, amounting to $515 per faculty member in the 1987-1988 academic year.

***Monroe Community College.*** Collective bargaining was also a stimulus for professional development activity at Monroe Community College. The 1987-1990 contract stipulates that a portion of increased funding arising from increased productivity in the faculty workload would be allocated to professional development activities, either on an individual volunteer basis or as part of a departmental effort. To insure that departments that are declining in enrollment or that generate credit-hour funding are not left out of the benefits of the agreement, half of the new funds are available for the benefit of the more productive individuals and departments, and the rest are applied to programs and activities to benefit the entire staff.

***Humber College of Applied Arts and Technology.*** Humber College places the focus of its international education program on staff development. Beginning in the late 1960s with the special interest of the college's first president in the educational needs of the people of St. Vincent, West Indies, Humber has sought partner institutions in other countries. While the program includes student exchanges and study tours, its main feature has been the recruitment of staff members to serve as consultants, usually during the summer, to the partner institutions. As in a nation's Department of State, each Humber administrator is assigned a foreign "desk," responsible for a particular geographical area. Programs have been established in over 35 countries from Singapore to Ethiopia and include curriculum development, teacher training, and a number of discipline specialties.

Another international experience available for Humber faculty and staff is CHELT, a cooperative venture that began in 1983 with Dallas County Community College District and Nelson and Colne College in England. CHELT, a case study, simulation activity, is also the name of the hypothetical country used in the simulation. Once a year, fifteen faculty and administrators from each college meet for a one-week workshop to plan a multi-campus community college system with the government of CHELT. Staff members who have participated in CHELT or international educational consulting have reported a renewed vitality in their own professional lives as well as an enhanced understanding of the nature and function of their own college.

As the activities mentioned above represent only a sampling of the vigorous staff development programs found in League colleges, it would seem that the Carnegie Foundation study was particularly remiss in failing to include community colleges in their survey of institutions. Had their study of undergraduate education been broader, the four-year colleges and universities might have profited from exposure to many of the innovations in staff development initiated in League colleges.

**Innovations in Institutional Development**

Institutional development and future planning in community colleges are ongoing processes, ever in need of innovation and improvement. From long-range, comprehensive planning to specific techniques to increase efficiency, League colleges have excelled and provided models for others to follow.

***Delta College***. From its creation in 1961 by a three-county taxing district in Michigan, the college was plagued with uncertainty about its future direction. Some faculty members and citizens in the community expected it to become a baccalaureate institution, while others were more in tune with the aspirations of emerging community colleges. A new president in 1964, with the support of trustees, determined to settle the question and created Project SEE (Survey of Educational Environments) to plan the future destiny of the institution. Seventy-five thousand dollars from the general fund, 3.3 percent of the entire college budget, was committed to the project which was directed by fourteen faculty members and two administrators. Project staff visited 59 colleges, and League founder B. Lamar Johnson served as a special consultant.

A Charter of Commitment was developed as a result of the study and visitations which clearly outlined the philosophical and operational dimensions of a two-year community college. One hundred and forty-seven recommendations were made, in categories calling for short-term, intermediate, and long-range implementation. Although planning initiatives that include such techniques as environmental scanning are relatively commonplace in 1988, Delta's comprehensive planning effort was years ahead of its time, especially for community colleges. For Delta, Project SEE resulted in a road map for the college that would guide it for years to come.

***Maricopa Community Colleges***. The Maricopa Community Colleges organized a district council as the central feature of their planning efforts. The Joint Council on Educational Priorities was charged in 1978 with establishing district priorities, and since then has issued biennial reports. Special funding was set aside for approved projects which are usually championed by a faculty member who brings a proposal to the council. On several occasions there have been special topic meetings involving board members, faculty members, students, and representatives from the community.

A 1987 reorganization of Maricopa Community Colleges replaced the Joint Council with college and district strategic planning committees, but the process to establish priorities has been maintained. Computer-assisted instruction has topped the most recent list of priorities, and the list of past projects reflects many innovations similar to the broad range presented in this volume.

***Miami-Dade Community College***. Institutional research is an important component in any college planning process, and at Miami-Dade Community College it has become a centerpiece of operations. Miami-Dade expanded its Office of Institutional Research in 1975 from one that only provided enrollment figures and routine reports to one that also researches policy questions and coordinates all entry and exit-level testing. With these three areas combined into a single centralized operation, the Office of Institutional Research has been able to analyze college operations more completely and play a vital role in policy-making.

Now, with six full-time professional researchers and a full complement of support personnel, the office can monitor student placement and progress in educational programs, and also conduct evaluation studies as required by the campuses. With access to broader databases, student characteristics and performance and institutional characteristics are often compared with state and national norms.

***Lane Community College.*** Lane Community College in Oregon has employed a purposeful procedure to stimulate innovations in its institutional operations. From the early 1970s, Lane's staff has formed quality circles and verteams to solve work-related problems. A quality circle is a small group of about ten people who share a common work area. A verteam is similar, only it draws members from several areas and addresses problems which cross departmental lines. Specific techniques used in group sessions include brainstorming, Pareto analysis, data gathering and analysis, STP (situation, target, potential solution) analysis, and force-field analysis.

Based on the assumption that workers are more familiar than top managers with problems at their level, these groups have helped to reduce insurance rates by devising safety programs, and have thought of ways to increase staff productivity and student retention. The range of constructive ideas is indicated by the following examples of a new energy system for the campus and the use of VISA cards.

Expenses for Lane's all-electric heating and cooling plant in the mid-1970s were increasing dramatically, just as low water supplies demanded reduced usage of the hydroelectric generating systems serving Oregon. With the ideas from quality circles, verteams, and a local engineering firm, a new energy management system was devised which included computerized controls, a heat recovery unit, and an energy storage facility. Heat can be removed, redistributed, or saved by the system, which uses two thermos bottle-like stainless steel storage tanks, each with 60,000 gallons of active and passive water storage. With the relatively mild climate of Eugene, Oregon, it is rare that supplemental heating and cooling need to be used. The initial cost of $250,000 was recovered within three years as electrical consumption was reduced 50 percent, and for 1987 alone, the reduction amounted to a savings of $400,000.

Another idea generated by a verteam was to cut through the red tape of purchase orders by allowing budget managers to use VISA cards for purchases under $100. The college receives a monthly statement from the bank for each department's credit card account and pays all the charges with a single check. A verteam discovered in 1982 that about 6,000 purchase orders a year, nearly two-thirds of the total, were for under $100, and that the cost of processing each purchase order, which involved altogether 124 activities, amounted to $75 in time and materials. An experimental program allowing the use of VISA cards not only proved cost effective, but it won immediate acceptance of the participants who praised the reduced paper shuffling and the flexibility to find sales, shop by telephone, and fulfill unexpected purchasing needs without delay. Now the system is in place throughout the college with an annual savings of $118,000.

Staff and institutional development efforts have always been central to League efforts. A number of conferences, workshops, publications, and special projects have been devoted to improving teaching and learning, as well as other institutional practices. One of the League's most broad-based projects, the Community College Productivity Center, focused on increasing productivity in all college operations, ranging from effective scheduling of staff to reducing student attrition. Recent efforts in applying computers to improve both academic and administrative processes also have increased productivity as the end goal. In fact, every meeting of the League Board of Directors generates suggestions and ideas to improve staff and institutional development, for this is at the heart of the purpose of the League.

CHAPTER FIVE

# INNOVATIONS IN REACHING OUT TO THE COMMUNITY

The transformation of junior colleges to community colleges occurred gradually, almost imperceptibly, as the growth of these new institutions mushroomed in the 1960s. The functions of preparing students to transfer to four-year colleges and universities and preparing non-transfer students for the work force were givens from the start, but other functions and goals were considered, and some adopted, as the need for them was articulated. Critics complained that this educational newcomer was trying to be all things to all people. However, most proliferation of the functions of community colleges resulted from their attempts to respond to the unmet needs of their local communities. Although these institutions were often a part of a state system of higher education, most reflected the characteristics and needs of their local communities and became community colleges in both fact and name.

## Cultural Enrichment

Cultural enrichment for the local community became one of the new goals of the community college. The accomplishments of a number of League colleges in fulfilling this aspiration have received national acclaim.

***Cuyahoga Community College***. The Tri-C JazzFest has been an annual event at Cuyahoga Community College since 1980. In 1986, the festival was recognized by the National Association of Jazz Educators as the best of the festivals it had sanctioned for the year. The Tri-C JazzFest has expanded over the years to include numerous events. It takes place over a ten-day period and sponsors nearly 200 educational and concert events, featuring world-class artists and educators. Bands come from all parts of Ohio, joined by visiting artists such as Walter Cliff, Count Basie, Ramsey Lewis, and Les McCann. More than a college project, the festival involves a number of co-sponsors and community supporters, including the Playhouse Square Foundation in Downtown Cleveland and the Northeast Ohio Jazz Society.

***Foothill-DeAnza Community College District.*** Foothill College achieved similar recognition for its role in establishing a Performing Arts Alliance and Annual Summer Festival in northern California. In 1982, fifteen organizations with a reputation for artistic excellence were invited by Foothill to enter the alliance. Foothill offered to provide them with first-rate, campus-based performance facilities and box office, technical, and promotional services. In exchange, the art organizations would assist in providing opportunities for college students. All agreed to this innovative arrangement, and a wealth of training and performance opportunities became available for Foothill students when they enrolled in the college-based music, drama, light opera, and dance-company classes.

The alliance concept took hold easily and grew quickly. The 1987 Summer Festival was the largest of its kind in northern California. Theater groups entertained children with *The Frog Prince* and *Cinderella*, and Shakespearean actors presented *Henry IV* and *The Taming of the Shrew*. Opera and musicals ranged from *La Traviata* to Gilbert's and Sullivan's *Ruddigore* to *Guys and Dolls*. There were concerts and community sings, ballet and modern dance, orchestras and chamber groups, performances in the round and performances under the stars. Altogether, 36 different events with 106 various performances were offered in Foothill's 1987 Summer Festival, and they were enjoyed by an audience that numbered over 14,000.

**Wellness Clinics**

Besides attending to the intellectual and cultural interests of their localities, community colleges have also made special efforts to provide opportunities for physical self-improvement, often in the form of wellness clinics.

***Monroe Community College.*** The Monroe Community College Center for Rehabilitation and Fitness responded to the need for cardiac rehabilitation facilities expressed in 1980 by the local Mended Hearts Club. Beginning as a physician-referral program, it grew to include spouses, police and firefighters, and other groups. A special exercise program was established in 1984 to address the needs of victims of Parkinson's disease.

***Kern Community College District.*** The Fitness Center at Porterville College in the Kern District in California also began in 1980, primarily for the purpose of aiding handicapped students; however, it was also soon expanded to serve other groups. Cardiac equipment was added in 1982, including a $50,000 Metabolic Measurement Cart, a device which measures oxygen consumption and analyzes how efficiently it is being used during exercise. Also added was an 18-station Universal Fitness Super Circuit which allows fitness programs to be designed on an individual basis with the most beneficial aerobic workout. Recognizing the benefits of a fit staff, Porterville College allows all employees to take time off their regular jobs to attend center programs, and 70 percent have done so, resulting in increased productivity, decreased absenteeism, and reduced medical benefit costs. The college has also contracted with the City of Porterville and other organizations to provide fitness services which meet their needs.

## Innovations in Reaching Out to the Community

Recognizing the rapidly developing wellness programs in community colleges, the League for Innovation sponsored a special conference on wellness programs in 1987. Hosted by St. Louis Community College, participants reviewed wellness programs designed for students and faculty and staff, as well as programs designed for citizens in the community.

## A Plan to Promote Sex Equity in the Community

***Santa Fe Community College.*** In the 1970s, local business leaders in Gainesville, Florida, approached educators at Santa Fe Community College to see if they could assist them in being better equal opportunity employers. In particular, they were concerned about the low number of women applicants for traditionally male jobs, such as telephone groundpersons and line-workers. Santa Fe responded to the community need, and over the years has developed the Model Program for Sex Equity in Vocational Education.

The Santa Fe sex equity program provides short-term vocational programs, services and activities designed to eliminate sex bias and stereotyping in education, particularly in vocational education. Within the program are a number of special support services, including counseling, job skills development, placement, transportation, and dependent-care services. But the heart of the Model Program for Sex Equity is specific training to help women enter non-traditional vocations. To date, Santa Fe has developed programs for telephone and utility workers, as well as for cable television technicians, video and recreational game repair workers, satellite dish system installers, vinyl floor installers, ceramic tile installers, fire extinguisher maintenance technicians, pest control technicians, and small motor repair workers.

The training programs are short-term, usually from one to three months in length, and each consists of three parts. The first part of a training program is technical education, developing the skills required for the particular vocation. The second part focuses on employment skills, helping women with the process of applying for jobs and developing the attitudes that contribute to maintaining employment. Third, the training program includes a body conditioning segment designed to increase the ability of the student to handle the specific physical demands of the job.

These training programs are not limited to women, and Santa Fe recruits male students who are not traditionally identified with the occupation, often racial and ethnic minorities. But Santa Fe has most actively recruited groups of women to enter these programs. There is a special program for the recruitment of minority women, and another one for women released from prison. More recently, the college launched a program to attract displaced homemakers, women who are over thirty-five years of age and entering the job market for the first time. An important element of this program is a two-week session devoted to building confidence and self-image.

During the 1986-1987 college year, nearly 100 persons received the career counseling, employability skills training, enrollment assistance, and support services made available by the Sex Equity Program. Seventy-two percent were female, twenty-five percent were minority students, and fifty- four percent were economically disadvan-

taged. In addition, fifty-three percent were single parents or displaced homemakers. During the same year, the Sex Equity Program served over 2,000 persons through awareness and outreach activities, including presentations on sex-role stereotyping and non-traditional careers in area schools and to various organizations in the community.

**Innovative Partnerships with Business and Industry**

While community colleges have accepted community service as one of their integral functions, at least since the 1960s, in the 1970s and particularly the 1980s, community colleges developed an intensive interest in providing services to business and industry in their local communities. Indeed, in a growing number of cases, colleges are becoming important partners with industry in promoting the economic development of their communities.

***Humber College of Applied Arts and Technology***. Humber College was an early leader in local and national corporate service initiatives in Canada. Since the early 1970s, Humber's Resource Development Group has included two departments which offer innovative programming. One, Client Services, acts as a training broker for business and industry, offering customized training programs from basic skills to training top management, either on campus or at the client's place of business. In 1986, Client Services was awarded the contract for the Ontario Systems Council Project, under which the college provides training to meet the needs of all Ontario Government Ministries.

The second department, Conferences and Seminars, originally was set up to book rooms and handle logistical arrangements for persons using college facilities, particularly during the summer months. Now Humber combines this expertise with its educational and technical programs to offer complete conference and institute planning and staffing, for as few as ten delegates up to major conferences involving a thousand people. The training offered is practical, highly focused, and results-oriented, and it has been so well-received that the department offers a guarantee of quality, or the client's fees will be refunded. In cooperation with such diverse organizations as the College of Family Physicians, the Ministry of Tourism, and the Ontario Department of Parks Association, Humber has become widely recognized for this service which is available throughout Canada.

Humber also entered into a community-based partnership with the Woodbine Centre, a large regional shopping mall within walking distance of the main campus. Opened in 1984, Humber worked with the developers to locate educational facilities at strategic locations within the mall, including the Humber-Woodbine Daycare Centre. Humber has information, registration, and financial services available at the mall, and a number of courses which attract retail store employees are offered on the premises, such as classes in retail techniques and marketing. A number of regular college classes are offered at the mall, too, and they often attract shoppers who might not otherwise find their way to the college doors.

***Delta College***. Delta College opened an Office of Corporate Services in 1980, with the understanding that it would become self-supporting and that it would design

programs and services in partnership with business and industry. One of the first undertakings was to offer the classroom components of apprentice training for employees of numerous local companies. Shortly thereafter, the college was asked to take over the operation of an industrial welding center originally developed by the Dow Chemical Company.

The most explosive growth of Corporate Services has occurred in the automotive field. General Motors and Delta developed the concept of working together to train dealership service personnel on current technology by alternating work in dealerships with classroom study. The idea resulted in the Automotive Service Educational Program (ASEP) which, from its beginnings in 1979, had grown to involve 35 colleges and technical schools in 26 states by 1985, including five other League districts. It is expected that during 1988, as many as 1,000 students will graduate from the program as well-prepared to service General Motors automobiles.

The success of ASEP has led Delta College to further partnership ventures with the automobile industry, particularly with General Motors, which has generously shared new product information, technical support, and instructional equipment to keep education up-to-date with new technology. Eight full-time Delta faculty members teach their entire loads at various General Motors manufacturing locations. Other instructional personnel teach at locations in several other states, and some foreign assignments are likely in the future. The growth of all corporate services has been substantial; during 1987, about 18,000 people participated in one or more training programs offered by the Office of Corporate Services at Delta.

***Lane Community College.*** Lane Community College entered into partnerships with government and business in Oregon in 1984, as that state faced an increasing rate of business failures and double-digit unemployment. Lane launched the Oregon Small Business Development Center Network (OSBDCN) as a way of providing low-cost information, counseling, and classes on how to begin and operate a small business.

The OSBDC Network operates at 21 sites throughout Oregon, using a staff of professionals from area colleges, executive-level managers, and various consultants to conduct training and informational activities. In addition to improving business methods and evaluating operations, the network has been successful helping clients compete for federal research and development funds. OSBDCN has been so successful that it was a featured contributor to the White House Conference on Small Business.

Another special service of the network is the International Trade Program, operated from Portland, Oregon, the major commercial center in the state. Counselors at the center examine the international trade potential of products produced in the state, and make recommendations for marketing plans. The center also maintains a library where information on international trade rules and regulations is readily available. The trade program has counseled over 300 companies.

Many publications have been developed by the network, including some in Spanish, and it offers frequent seminars, workshops, classes and conferences. OSBDCN is directly involved in helping to start up about 200 new businesses a year, in addition to assisting existing businesses expand sales, reduce costs, and increase profits. The network has improved opportunities for small businesses in Oregon to survive and

prosper, and at the same time has improved the employment picture. A recent impact study revealed that the businesses which completed either long-term counseling or specific management programs offered by the network increased their number of full-time employees by 69 percent.

***Moraine Valley Community College***. In Illinois, Moraine Valley Community College introduced two projects to help the economy of its area. The first was the Business-Oriented Search Service (BOSS), a fee-based information service which functions as a corporate library for businesses which have neither the human nor financial resources to meet their information needs. Unlike most other outreach information services which provide only on-line database searching, BOSS is a full service information center, providing reference and research, on-line database searches, document delivery via photocopy or interlibrary loan, corporate borrowing privileges, and materials acquisition. All services are available on a cost recovery basis, and are managed by a professional librarian with experience in business reference.

BOSS has responded to over 400 requests for information since its inauguration in January, 1986, and has established over 50 deposit accounts for clients ranging from single proprietors to large corporations. While originally intended as a local area service, the unique nature of the program has attracted much notice. BOSS is now accepting information requests from clients all over the metropolitan Chicago area, as well as regularly receiving referrals from major public libraries and universities.

***Johnson County Community College***. Burlington Northern Railroad and Johnson County Community College have formed an innovative partnership with the construction of the Industrial Technical Center on the JCCC campus. Two thirds of the cost of the 50,000 square foot building is being paid for by Burlington Northern, and one third by the college. Construction is being financed by industrial revenue bonds issued by the local jurisdiction, Overland Park, Kansas.

The ITC will serve as the national training center for Burlington Northern employees, up to 2,000 of which will receive training there annually. Engineers, signalmen, communications personnel, dispatchers, and maintenance-of-way workers will spend an average of two weeks annually attending classes in the shared facility. In return, Johnson County Community College has access to the classrooms, technical facilities, office, and storage space for its own technical programs.

**Technology Centers**

Other colleges have developed technology centers as a result of their commitment to serve the growing technical training needs of local business and industry.

***Moraine Valley Community College***. Another business-oriented project is the Center for Contemporary Technology, started in 1983 with an unusual special appropriation by the Illinois state legislature of almost seven million dollars in matching funds. The center is designed to provide comprehensive technological education, specific technical training, research and development, and services to the community. In addition, it promotes state-of-the-art technology, flexible delivery systems, interactive communications, and cooperative partnerships in the public and private sectors.

Planning and building the Center for Contemporary Technology has been a five-year project, and the new 120,000 square foot facility is scheduled to open in the fall of 1988. To encourage close business and industry partnerships, companies will be able to build offices as attached structures, called pods. IBM became the first corporate pod partner. Included in the large facility will be a learning center, a computing center and a technology transfer laboratory, available for applied research projects. The number of Chicago-area companies expressing interest in the project continues to grow as Moraine Valley's Center for Contemporary Technology becomes fully operational.

***Cuyahoga Community College***. In the neighboring state of Ohio, Cuyahoga Community College opened its Unified Technologies Center in 1986, as one component in a complex web of activity, including state and local agencies as well as public and private organizations. An early leader was Cleveland Tomorrow, an organization of the chief executive officers of more than 40 of Cleveland's leading corporations, which in 1982 recommended a regional partnership plan with all higher educational institutions in the area, stressing a unified approach toward research, education, and training involved in advanced manufacturing techniques. About the same time, the state of Ohio established the Thomas Edison Program to promote such partnerships and improve employment opportunities. Out of these activities came CAMP, the Cleveland Advanced Manufacturing Program, established as one of the nine Thomas Edison Advanced Technology Centers in Ohio. As part of CAMP, which also includes Case Western Reserve University and Cleveland State University, Cuyahoga Community College was provided eight and one-half million dollars for the Unified Technologies Center.

Cuyahoga's UTC is housed in a 96,000 square foot facility, with a large, high bay manufacturing technology laboratory, seventeen seminar and training rooms outfitted with over 150 computer and interactive video workstations. Already operational are training programs in statistical process control and computer-aided design and manufacturing. The UTC has linkages for technology transfer through the other Thomas Edison Centers as well as the Ohio Technology Transfer Network and the Great Lakes Governor's Economic Development Council.

In its first year of operation, the UTC has attracted over 10,000 persons to participate in seminars, training, professional meetings, and programs focused on such technology as artificial intelligence, microcomputer software applications, computer-aided design, desktop publishing, and quality assurance. At the cost of an additional one million dollars, an extensive teleconferencing and distance education facility is being added to the UTC.

***Foothill-DeAnza Community College District***. On the West Coast, Foothill College became involved in building specific partnerships with industry in 1983, starting with a partnership arrangement with nearby Tandem Computers Incorporated. The college profited from more than a one million dollar contribution of computer equipment and services, including computer training for college faculty and staff members. In turn, the college showcased the Tandem Nonstop System, and assigned faculty and staff members to the development of curriculum and the teaching of courses needed by Tandem employees for their own advancement. This first project was

enthusiastically accepted by both partners, and it led to another—computerizing Foothill's library system. With software donated by UTLAS Corporation, the college now provides students with computerized access to all of its own collection, as well as to collections in college, university, corporate, and public libraries nationwide. Cataloging, acquisitions, and other operations also are being computerized, giving Foothill's library the distinction of being one of the most automated community college libraries in the country.

Foothill has also developed ongoing relationships with such companies as Hewlett-Packard, Varian Associates, Lockheed Missiles and Space Company, Intel Corporation, and Convergent Technologies. The usual arrangement is for the companies to donate equipment and software, and for Foothill to offer on-site classes and help in product development. Over 30 business sites currently host Foothill classes. For example, Hewlett-Packard donated nearly $200,000 in equipment in 1986, and gave $180,000 to the college in 1987 to create a soccer field and two softball fields; these will be used by the college in daytime and by corporation employees after work hours. Convergent Technologies recently donated 30 MiniFrame Systems, enabling the college to offer new courses in Pascal, C, UNIX, and a large number of software applications.

**Customized Training Programs**

Customized training programs have also resulted from partnership agreements between community colleges and the business community. Several such programs have been developed by League colleges in response to local needs, including the following innovative programs.

***Lane Community College***. The economic fortunes of Lane County, Oregon, have for many years been tied directly to the lumber and wood products industry. A recession in that industry in the mid-1980s resulted in soaring unemployment rates. The local Private Industry Council, in charge of distributing funds from the federal Job Training Partnership Act, turned to Lane Community College, which at the time was developing the Oregon Small Business Development Center Network. The task was to develop training programs that would be suitable for expanding businesses and perhaps develop new niches in the labor market for unemployed and under-employed workers.

The approach taken by Lane Community College to establish customized occupational training programs combined market research with the use of employer advisor groups. Over twenty programs have been established to date, in areas such as electro-mechanical maintenance, computer-aided drafting, chiropractic assistant training, and printing and publishing training. The programs range in length from a few weeks to two years, and usually involve cooperative work experience to ease the transition from the classroom to the new work environment. Also, in most cases, instructors are recruited from the ranks of private industry to work with the Lane faculty to help integrate classroom and hands-on training.

For training programs to remain customized, existing ones are frequently evaluated and revised. New ones are developed that continue to stress flexibility and the

need to adapt to a rapidly changing job market. Structural unemployment is a national problem, although Lane County felt its impact more forcefully than many areas. Since its first program in 1985, Lane Community College has successfully placed 75 percent of the 300 students who have completed one of the customized occupational training programs

***St. Louis Community College.*** The rapidly changing workplace also requires updating the skills of those already employed. For example, large numbers of people in telecommunications and electronics, including engineers and technicians with recent degrees, have not received instruction in the important field of optoelectronic applications. To meet this need, the St. Louis Community College District, through its Institute for Continuing Education at the Florissant Valley campus, developed a special course, Fiber Optics Technology.

The close proximity of the McDonnell Douglas Astronautic Company was a key reason for St. Louis Community College's being at the cutting edge of this new technology. Fiber optics—strands of glass or plastic fibers used in optical communications—was important to space exploration, but the applications potential extended to numerous industries, including electronic communications and several health industries. The course was initiated in 1986, and now Fiber Optics Technology is a firmly established course drawing dozens of students from an increasing variety of fields each semester.

The League for Innovation has been active in promoting partnerships with business and industry. Representatives from business and industry often join educators in League conferences and seminars, and on several occasions the League has arranged special idea exchanges between the League Board of Directors and CEOs from the corporate world. Partnerships with business and industry have produced the National Training Network and "The Community College and the Computer," one of the largest initiatives ever undertaken by the League. The strength of all such efforts, however, remains the working relationships that League colleges have developed with business and industry in their own communities.

CHAPTER SIX

# INNOVATIONS IN COMPUTER APPLICATIONS

> Education in the United States is just now beginning to experience some of the public enthusiasm and support it has lacked for a decade. Simultaneously, the large manufacturers of microcomputers are awakening to the enormous potential of the education market for their products. The coincidence is too fortunate for us to ignore—and too unusual for us to expect a recurrence. The coming decade may well be our last chance—our window in time—for determining whether computer technology will play a major role in our educational institutions or merely dominate our daily lives (as television does) while we ignore it in the schools.
>
> Peter Wagschal
> *Phi Delta Kappan*

It is not easy to describe a revolution in the making. Tradition seldom falls in a single crash to be replaced overnight with a new way of doing things. Turning points and crucial events, which seem so clear with hindsight, sometimes pass unnoticed by contemporaries in the whirl of current events. The evidence of the innovations detailed in this chapter argues that League colleges are not missing the opportunity to take advantage of the window in time that Wagschal describes. They are incorporating computers into all aspects of their operations.

Innovative applications of computers have been mentioned several times in previous chapters, and major initiatives involving partnerships between the League and corporate partners related to computer technology have been detailed in Chapter One. This chapter highlights selected innovations of League colleges in using computers in various ways: to increase the effectiveness of support services, to improve instruction, and to improve efficiency in communications and sharing of resources.

## Computers in Assessment and Advisement

Two League member institutions in Florida, Miami-Dade Community College and Santa Fe Community College, joined in a cooperative effort with two League computer partners, The College Board and IBM, to develop more efficient assessment and accurate placement of students into entry-level skills courses. The project was based on an experiment pioneered at a third League college, Central Piedmont Community College. The State Board of Education and the state legislature in Florida have pressed institutions in the state for more uniformity and accountability in placing students properly and tracking their progress. In recent years, they have mandated that student skills be assessed at the completion of the sophomore year of college. Miami-Dade and Santa Fe have assumed a leadership role in the state for pilot-testing accurate assessment tools to assist students to succeed in appropriate courses, as well as to assist Florida community colleges to meet state mandates.

Both Miami-Dade and Santa Fe piloted the use of Computerized Placement Tests (CPT) developed by The College Board. CPT consists of four untimed tests, taken on microcomputers, that cover reading comprehension, sentence skills, arithmetic, and elementary algebra. The innovative feature of the CPT is the use of computerized adaptive testing. These instruments adapt student responses to provide individualized tests that adapt quickly to students' abilities and avoid frustrating them with unnecessary questions while making very precise measurements of their performance. In addition, because these tests are efficient, they require only a fraction of the time to administer than a battery of paper and pencil instruments.

***Miami-Dade Community College.*** The Campus Assessment Center at Miami-Dade Community College, which opened in 1987, provides not only computerized adaptive testing, but an array of computerized information processes that make student intake an efficient and painless process for students. The center is open to students from 8:30 a.m. to 9:00 p.m. every weekday except Friday, when it closes at noon. After students complete the CPT to assess their skills, they view a video orientation to the college. The video leads the students through an academic planning manual and provides an overview of campus offices and services.

After the video presentation, students receive their copies of Pathways, an individualized guide to course sequences that conform to their declared academic and vocational aims and the results of their assessment tests. Thus, in only a few minutes, computer technology allows the processing and analysis of assessment testing, the coordination of that information with transfer and vocational information, and the production of a useful and reliable guide for course and program selection. If a student requires additional information, Pathways suggests places where the student can turn for more information and advisement.

***Santa Fe Community College.*** Santa Fe Community College has found equal success with its assessment laboratory, which also uses the CPT. Follow-up studies of student progress indicate that entering students are being placed in programs and courses that lead to greater chances of success. Students at Santa Fe, like those at Miami-Dade, report satisfaction with the individually tailored tests, and they very much like the

flexibility of when they can take the tests, the unlimited time allowed to complete the tests, and the immediate feedback they receive from the testing session.

Santa Fe and Miami-Dade are also leaders in the use of computers for the academic advisement of students and determining their progress toward graduation. Santa Fe began experimenting with computer generated reports for students as early as 1976, and the system now in place can perform complicated graduation checks and advise students on how their academic record will compare to specific major and institutional requirements at the nine upper division universities in Florida.

Miami-Dade has a similar system called AGIS, the Advisement and Graduation Information System. AGIS can review electronically stored transcripts, current enrollment statistics, and refer to future student course sequences from Pathways, and then match them against curriculum files to determine the graduation eligibility for currently enrolled students. The system also provides transfer program information for the nine state universities in Florida and the four large private institutions in Dade County.

After Miami-Dade students fulfill all graduation requirements, AGIS will automatically graduate them and place the graduation remark on the transcript. If students have applied for graduation but do not meet the requirements, AGIS will generate a letter that specifies the reasons for ineligibility. AGIS is also used to send mailers to students enrolled in classes not needed for their degree or for transfer, just in case they might have received misinformation. Individualized messages are sent by AGIS to veteran students, athletes, and other special groups at the college.

Advisors and counselors at both Miami-Dade and Santa Fe have been relieved of much clerical work by the computer systems, and thus can spend more time on student problems. Many report a sense of relief that transfer requirements have become clearer and more consistent throughout the entire system, and feel more comfortable and secure about the reliability of information being provided to students.

**Instructional Computing Applications**

***Miami-Dade Community College.*** Miami-Dade Community College has also been a recognized leader in the use of computers in instruction. In 1971, the college initiated RSVP (Response System with Variable Prescriptions), a mainframe system that allows students and faculty to carry on a one-to-one dialogue, as well as keeping track of student response data and faculty evaluation standards. First employed in a single Open College course, RSVP has expanded into many areas and serves a variety of uses. The most extensive RSVP application currently is Academic Alert and Advisement, which touches virtually all of Miami-Dade's 40,000 credit students when they receive a report on their academic progress and attendance halfway into each term of study.

One of the major instructional uses of computers in the 1980s at Miami-Dade is the individualized information system called CAMELOT. This system was developed at Miami-Dade between 1981 and 1983 on behalf of a consortium of five educational institutions in the United States, the United Kingdom, and Canada. CAMELOT is an authoring tool similar in many ways to RSVP. However, it is based

on microcomputers, making it transportable, and it is also more comprehensive in scope. It is designed to promote individualized student learning, and to facilitate instructional management and faculty development.

As part of its five-year computer project, the League has worked with Miami-Dade and IBM to make CAMELOT available to more colleges and to extend its applications. By 1987, seventy-five CAMELOT systems were in place in 40 institutions, and the number of published application programs reached twenty-one. One widely used application developed at Miami-Dade by a League Fellow is Health Fitness, which assists people in determining their current health status and developing a personal fitness program. Another is Analysis of Writing, which enables instructors to evaluate written assignments at different levels and to generate individualized instructional letters with suggestions for improvement.

Miami-Dade established the Division of Computer-based Instructional Development and Research in 1977, and this division has spearheaded much of the college's innovation in instructional computing. The division has developed numerous applications using computers and related interactive technologies to individualize instruction for the college's enormously diverse student body. It also developed Banque, a general purpose computer system to store and generate test items, questions, ideas, and assignments for numerous instructional applications.

***Kern Community College District.*** The Kern district also made an early contribution to the development of instructional computing. In 1980, the National Science Foundation awarded the League $117,000 to develop materials and methods of instruction to train 30 science and social science community college instructors in computer-assisted and managed instruction. The four-week summer seminar was held in 1981 at Bakersfield College in the Kern Community College District. Bakersfield College had won the reputation of a leading California community college in instructional computer applications. In 1976, the college purchased a mini-computer exclusively for instructional use. The following year, the college received a National Science Foundation computer grant which was used to train its science faculty and acquire more specialized computer equipment. Thus, by the summer of 1981, Bakersfield College was a logical choice for the site of the League seminar.

The 30 participants came from 22 League colleges, representing the disciplines of biology, chemistry, physics, engineering, mathematics, geology, geography, psychology, political science, and sociology. Housed in college dormitories, with little incentive to pursue outdoor activities in the 100-plus degree heat, these college instructors, many of whom were to touch a computer for the first time, were immersed in projects that helped them understand the implications of computer-assisted instruction for their disciplines. When they returned to their own campuses in the fall, most were new converts to the belief that computers offered the potential of improved instruction rather than a threat to their jobs. And when they left, progress continued at Bakersfield College. From the ten computer stations the college had in 1976, the number has increased to 175 in 1988, and they are used by over 1,500 students each year.

***St. Louis Community College.*** Although not the first to use TICCIT—another League member, the Maricopa Community Colleges, pilot-tested the system in the late

1970s—St. Louis Community College has fundamentally changed developmental math instruction at its Meramec campus with its implementation. TICCIT (Time-Shared Interactive Computer Controlled Information Television) is a computerized system of lessons, exercises, and tests that is easy to operate and allows students to proceed at their own rate, while allowing effective monitoring of student progress and efficient management of student records. Originally used for elementary algebra, enthusiastic student response has spurred its growth into other math and biology courses. The total number of users in 1987 was over 1,350 students.

***Other League Projects***. Other League initiatives have involved its member colleges and its computer partners in joint development projects related to instructional computing. Working with eleven League colleges, Control Data Corporation sponsored a project to encourage the development and use of computer-based education software. Eleven colleges participated in training sessions using Control Data's authoring system, PCD3 (PLATO Courseware Design, Development and Delivery) for developing computer-based education courseware disks, and a software exchange consortium is being formed.

AT&T has worked with the Dallas County Community College District to establish model computer science resource laboratories to be used for computer science instruction at Richland and Eastfield colleges. The project provides students with programming language instruction in AT&T's UNIX operating system and Writer's Workbench to enhance English composition. Eventually, these resources will be available district-wide using the district's integrated communications network.

An IBM-sponsored project at St. Louis Community College focuses on a comprehensive faculty development program at the Forest Park campus. The purpose of the project is to incorporate computers into instructional programs in disciplines such as allied health, engineering, social sciences, and the humanities. IBM has provided IBM PC Junior personal computers for the project at Forest Park, and faculty members are participating in a training program which uses the PILOT authoring language to develop classroom materials. Computers can be checked out by faculty members for home and office use, and training sessions are conducted weekly regarding the specifics of the language package. Each participating faculty member is to develop usable courseware which will be installed on a Local Area Network which serves over 150 personal computer terminals throughout the campus.

Also as part of the computer project, the League formed a partnership, called Project LEADER, with the Sony Corporation of America and Deltak Training Corporation, to incorporate interactive video instruction into the curriculum of eleven League colleges across the nation. Sony Corporation provided five Sony View Systems to each of the participating colleges. Each interactive work-station consists of an integrated, high-performance videodisc player and microcomputer, a keyboard, and a touch-screen monitor. The system allows students to touch items portrayed on the screen and receive relevant instructions and information in response to their input. Rather than a passive recipient, each student interacts with the courseware and becomes an active partner in his or her own education. Deltak Training Corporation has furnished the courseware for the project, including programs on electrical, electronic, and mechanical technologies,

as well as basic skills development in math and reading.

A final outcome of the project is an evaluation of the effectiveness of this technology to provide instruction in a variety of settings. The eleven colleges are collecting data on student performance and student and faculty preferences to form the basis of the comprehensive study.

## Computer Networking

One of the most powerful applications made available by recent technological advances is the ability to share information resources via computer networks. While telecommunications networks have existed since the popularization of the telephone, computer technology now permits increasingly sophisticated networks for numerous applications. A full range of voice, data, video, and text functions can be automated, synchronized, and applied to administrative and instructional functions, and networks allow powerful computer resources to be shared broadly.

***Maricopa Community Colleges***. While the advantages of computer networking have become apparent to institutional and personal users of computers by 1988, this fact was much less certain in 1982 when the Maricopa Community Colleges began to plan its computer network. The district's foresightedness established it as an early leader in computer innovations in community colleges.

Up to 1982, computer development in the Maricopa district was mostly piecemeal, some equipment from a grant here and some software from another grant there. More integration and more resources were needed throughout the multi-campus district, and the need to manage abundant data was magnified by its large size. Yet, at the same time, competition among the colleges as well as among administrative and instructional computer priorities needed to be overcome to implement a comprehensive computing plan.

The district found an effective political solution by creating the Information Technologies Council and empowering it to make all major decisions regarding district investments in new technologies. More than determining who would receive computers, the council examined investments in all electronic technologies, including telephones and television. Networking was on the horizon, although it would not be commercially marketed for several years. One early decision of the Information Technologies Council was to make certain that data, voice, and video electronics be integrated so that networking and future technological breakthroughs could merge into their system.

The council also determined that the use of technology had to be compatible with the management and working style of the district, the seven campuses, and the various centers. This meant decentralizing many computing functions and flattening the traditional pyramidal organizational structure. Also, the council saw that virtually every student workstation, clerical desk, and faculty office would one day have the need for full networking facilities. As a result, the needs of students and faculty were not placed second to administrative needs.

Recently developed DEC VAX computers made it possible to network mini-

computers at each college, with the potential of networking with whatever new electronic technologies seemed likely in the future. New telephone technology made it possible to increase dramatically the number of outlets and refined services, including electronic mail, message services, and access to various databases. Microwave linkages were built between each college for faster, clearer communication. By careful planning, the Maricopa Community Colleges established an effective computer network and emerged as national leaders in communication technology.

Once the network was functional, Maricopa joined with two other League computer partners, Information Associates and Digital Equipment Corporation, to develop innovative administrative and instructional software that will become models for other community colleges. Since 1985, a team of software specialists has been creating and revising software modules and expanding the system to include budgeting, purchasing, degree auditing, student registration, job placement, non-credit registration, student services, personnel services, library services, and computer-based education. In keeping with Maricopa's commitment to integration, all modules that are developed are integrated into systems already in place. From 150 terminal workstations or personal computers five years ago, the colleges now use over 6,000 for administrative and instructional purposes—all linked by its computer network.

***St. Louis Community College***. Also a leader in computer networking, St. Louis Community College at Forest Park adopted a three-year academic computing plan in January, 1983, which emphasized the importance of bringing computer power to every building in the college, and to every classroom, laboratory, and service area. The overall goal was to create a network that would allow any user to accomplish any task from any station. That goal has been achieved at St. Louis by linking a variety of microcomputers and a minicomputer with six miles of coaxial cable.

Using a NESTAR network, the college linked 250 Apple and IBM microcomputers to support students enrolled in English, allied health, business, computer science, history, political science, and sociology programs. The network allows students access not only to common software tools, such as word processing and spreadsheets, but also to any of the numerous CAI applications stored on the network server—many of which were developed by Forest Park faculty who have been trained in the use of both Apple and IBM authoring languages.

Two principal motivations have driven the development of this instructional network: student access and cost. St. Louis Community College at Forest Park contains 435,000 square feet under one roof. By decentralizing access, students can use necessary software from anywhere on the campus. They can access CAI modules in statistics from the writing center as well as from the math lab. Not only does this allow savings on software, but also substantial savings in staff and facilities overhead. Resource centers and dedicated computer labs do not need to be kept open during non-peak hours, such as evenings and weekends, because their resources are accessible from remote sites such as the college library.

In addition to the PC-driven local area networks, St. Louis Community College does use mainframe and minicomputing power for instructional computing applications, primarily for computer science and business students. As a result, students are

exposed to various computer environments and are well-prepared for the diversity they can expect to find in business and industry.

***Dallas County Community College District.*** The Dallas County Community College District relies on an information system network developed by AT&T to serve its seven campus and two district office locations and its 45,000 credit students. All data, voice, and video are transmitted by microwaves through the wide area network that encompasses the entire county and district.

The Dallas district's star-shaped network is centralized, rather than distributed, with all transmissions among the nine locations passing through a node at the district support center. There, a multi-mainframe environment supports 500 PCs and 475 terminals for office automation and other administrative functions, as well as for academic computing applications. As a result, any terminal and any microcomputer on the network can talk to any other by routing through a central switching unit.

On each of the seven campuses, STARLAN local area networks, also developed by AT&T, are implemented to share computing resources within the individual institutions. Because these local area networks are also tied to the district's wide area network, resources can be shared among colleges. One major example of the power of combined local and wide area networks is the joint venture between AT&T and the Dallas County Community College District to develop model computer science resource laboratories for students; as the models are implemented, these resources will be shared among all of the campuses via the district's network.

Once again, the motivations for implementing extensive computer networks in the Dallas County Community College District were twofold: to provide state-of-the-art services to faculty, staff, and student users and to keep the cost of entering the computer age within reach. By consolidating data, voice and video transmission into a single microwave network, rather than relying on utilities for services, the district estimates it will save two million dollars over eight years. Also, the district has hedged its bet on the future by installing broad-band microwave capabilities that can accommodate nearly unlimited growth.

***Monroe Community College.*** Another networking example can be found at Monroe Community College, called MCCAMS (Monroe Community College Adaptive Minicomputer System). This system integrates minicomputers and microcomputers to provide the computing power required to support instructional computing applications, independent of the college's mainframe that is used heavily for administrative functions.

Prior to the implementation of MCCAMS, the academic computing system consisted of a large IBM mainframe and many stand-alone microcomputers. The mainframe was used to satisfy conflicting demands of various constituents, and microcomputers, although more flexible, were not sufficiently powerful for many needs and could not provide a central data base for information sharing.

MCCAMS was introduced as a cost-effective and flexible addition to the existing system by gradual implementation of less expensive minicomputers tailored to meet specific academic needs. Such systems can be expanded and upgraded less expensively than mainframes and can be adapted to the changing needs of users. Monroe

Community College's Adaptive Minicomputer System now is the heart of the academic computing system, providing power and networking capabilities to meet student and faculty needs.

***Cuyahoga Community College***. In addition to developing its own comprehensive network for administrative and instructional applications, Cuyahoga Community College has played a leading role in establishing a statewide computer network, The Ohio Network for Information Exchange. In 1984, working with the Ohio Technical and Community College Association, Cuyahoga established the E-Mail Network to transmit electronic mail messages between the association's main office and its 23 chapters throughout the state. At first limited to simple messages, it became the base for an expanded service proposed by the Ohio Manufacturing Training Group and the Ohio Board of Regents.

The updated and expanded network includes bulletin board services and the capacity to store and access selected databases. Search aids allow users to enter key words relating to areas of interest, and in return find references and menus to follow for finding desired documents or databases. A special communications software package, ONet, has been developed by the Ohio Network for Information Exchange, and is provided free to system users.

Beginning operation on March 30, 1987, the Ohio network had 360 registered users by the end of that year. The system can now be accessed through a toll free telephone number from all two-year Ohio campuses, offices of the Ohio Board of Regents, and the offices of various other state boards and agencies. The Ohio network is a dynamic operation and will continue to grow, not only in the number of users, but also in the available services to meet the changing needs of the network users.

Certainly, much of what the League and its member colleges have accomplished in applying computer technology in the twenty years since the first Board of Directors met at Santa Inez could not even have been envisioned by the members of that board. In 1968, few community colleges employed computers of any kind to perform administrative and instructional tasks, and the microcomputer was ten years away from being invented. Nonetheless, innovations using computer technology have become a staple of League college activities, just as they have become integral parts of life in the closing decades of the twentieth century.

EPILOGUE

# A Formula For Success

What the League for Innovation in the Community College and its member institutions have accomplished over the past twenty years is certainly a record to celebrate. This document contains only a sample of the wide range and pervasive influence of the projects and programs initiated by the League and League colleges. Several volumes would be required to document the value and impact of the League's two decades of leadership through its 82 national conferences, 68 publications, and 70 projects funded for over 23 million dollars.

In 1988, the League is the only organization of its kind in the community college field, and it has achieved international recognition for the quality of its programs and activities. There are a number of reasons for the League's success.

First, high standards for membership have assured that League colleges represent a critical mass of leading institutions. The Board of Directors of the League requires that member colleges show evidence of excellence and innovation in all areas of community college operations. Members are not permitted to rest on the laurels of their past accomplishments; they must be currently excellent and innovative. Member institutions must be stable, with all major constituencies committed to providing quality education to their students. In addition, members must possess quality resources they are willing to share openly with other members. League colleges cannot just receive the benefits of membership. They must give a great deal, and they must have the financial and human resources to participate in this mutual sharing.

Membership in the League also requires a strong commitment from the chief executive officer and the board of trustees of member colleges to full participation in League activities. The quality and character of the chief executive officer is of paramount importance. Members of the Board of Directors must be able to interact as peers in an informal, collegial environment. They must trust and respect one another, and they must be able to communicate candidly and confidentially about issues and problems facing their own institutions and community colleges in general.

Second, the League has been successful because it has kept its membership small. The founding fathers articulated the concept of "a common table" as a descriptor for their intention. They felt that League membership should be kept small enough to allow the members of the board to sit around a common table, to get to know each other on a personal basis, and to be able to pool resources to address common issues and develop projects of mutual interest. Subsequent board members have continued to support this founding principle. As a result, the League remains small enough to be an effective working group. When a selected group of resourceful community colleges strongly committed to innovation combine their resources to address common goals over a sustained period of time, the result is the substantial record of accomplishment described in this document.

Third, the success of the League is due primarily to the leadership of its Board of Directors. The League board forms a critical mass of leaders in higher education. Eight members of the Board of Directors of the League have served in the position of President of the American Association of Community and Junior Colleges. One has served as President of the Association of Canadian Community Colleges. League board members also provide national leadership at all levels of education, holding membership on advisory councils and boards of directors of the Education Commission of the States, Council for the Progress of Non-Traditional Study, American Council on Education, American Association for Higher Education, Joint Council on Economic Education, American Association for the Advancement of the Humanities, National Center for Higher Education Management Systems, Business-Higher Education Forum, Association of Canadian Community Colleges, Carnegie Foundation for the Advancement of Teaching, and many others.

Only three times in its history has the American Council on Education been chaired by a community college person. Two of those chairs were members of the Board of Directors of the League for Innovation. Only twice in its history has the National Center for Higher Education Management Systems been chaired by a community college person. And those two chairs were members of the Board of Directors of the League for Innovation. Only one community college person is represented in the prestigious Business-Higher Education Forum, and that representative is a member of the Board of Directors of the League for Innovation.

In 1985, a group of national panelists identified the top five community colleges committed to teaching excellence. Under the direction of John Roueche and his associates at The University of Texas at Austin, these five colleges were selected from among the more than 1,200 two-year colleges in the United States. Four of the five institutions were League for Innovation colleges, and in follow-up studies Roueche identified the president or the chancellor as the primary catalyst for teaching excellence.

In 1988, positions held by board members of the League include: Chairman of the Board of the American Association of Community and Junior Colleges, Chair of the American Council on Education's Commission on International Education, Co-Chair of the University of Michigan's Center for Learning and Teaching, Chair of the Advisory Committee to the Center for Research on Postsecondary Management and Governance at the University of Maryland, and Vice President of The College Board.

**A Formula for Success**

The record speaks for itself. Over the past twenty years, members of the Board of Directors of the League for Innovation have played a central leadership role in the community college movement. They have a history of commitment to providing leadership, and they are strongly committed to providing continuing leadership for the future.

With this quality of leadership, with high standards for membership, and with a commitment to a small and effective working group, the League has a record of accomplishment over two decades worth celebrating. More importantly, the future is bright and challenging for the League and its member colleges, as they prepare to provide leadership in innovation for the next two decades.

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*Available from the League for Innovation in the Community College.

APPENDIX

# LISTING OF INNOVATIONS BY LEAGUE MEMBER INSTITUTIONS

**Central Piedmont Community College,** Charlotte, North Carolina

| | |
|---|---|
| 1. Adult Basic Literacy Education (ABLE) | Chapter Two |
| 2. Self-Paced Learning in Auto Mechanics | Chapter Two |
| 3. Testing Center | Chapter Three |
| 4. Telephone Registration | Chapter Three |

**Cuyahoga Community College**, Cleveland, Ohio

| | |
|---|---|
| 1. Scholar-in-Residence Program | Chapter Four |
| 2. Human Resources/Personnel Office | Chapter Four |
| 3. Tri-C Jazz Festival | Chapter Five |
| 4. United Technologies Center | Chapter Five |
| 5. Ohio Network for Information Exchange | Chapter Six |

**Dallas County Community College District,** Dallas, Texas

| | |
|---|---|
| 1. Honors Program | Chapter Two |
| 2. The Common Learning Project | Chapter Two |
| 3. Television Courses | Chapter Three |
| 4. Call "C-O-L-L-E-G-E" Marketing | Chapter Three |
| 5. Computer Networking | Chapter Six |

**Delta College,** University Center, Michigan

| | |
|---|---|
| 1. Multi-Sensory Nursing Instruction | Chapter Two |
| 2. Public Television | Chapter Three |
| 3. Survey of Educational Environments-Project SEE | Chapter Four |
| 4. Professional Development Allowance | Chapter Four |
| 5. Corporate Services | Chapter Five |

**Foothill-DeAnza Community College District,** Los Altos Hills, California

| | |
|---|---|
| 1. Foothill Institute for International Studies | Chapter Two |
| 2. DeAnza California History Center | Chapter Two |
| 3. DeAnza Programs for Disabled | Chapter Three |
| 4. Foothill Partnership with Business and Industry | Chapter Five |
| 5. Foothill Performing Arts Alliance and Festival | Chapter Five |

**Humber College of Applied Arts and Technology,** Toronto, Ontario

| | |
|---|---|
| 1. International DACUM Exchange Centre | Chapter Two |
| 2. Post-Diploma Continuing Education | Chapter Three |
| 3. International Staff Development Opportunity | Chapter Four |
| 4. Corporate Service Initiatives | Chapter Five |
| 5. Community Partnerships | Chapter Five |

**Johnson County Community College,** Overland Park, Kansas

| | |
|---|---|
| 1. Content-Based Learning Strategies | Chapter Two |
| 2. Regional Extension Center with Gallaudet | Chapter Three |
| 3. Staff Development | Chapter Four |
| 4. Industrial Technical Center | Chapter Five |

**Kern Community College District,** Bakersfield, California

| | |
|---|---|
| 1. Bakersfield Two Plus Two Agriculture Curriculum | Chapter Three |
| 2. Cerro Coso Invitational Art Workshop | Chapter Three |
| 3. Cerro Coso Outreach Centers | Chapter Three |
| 4. Porterville Community Fitness | Chapter Five |
| 5. Bakersfield Computer Use in Science Education | Chapter Six |

**Kirkwood Community College,** Cedar Rapids, Iowa

| | |
|---|---|
| 1. Humanities Project | Chapter Two |
| 2. Telecommunications | Chapter Three |
| 3. Skill Center | Chapter Three |
| 4. Community Education | Chapter Three |
| 5. Agricultural Technology | Chapter Three |

**Lane Community College**, Eugene, Oregon

| | |
|---|---|
| 1. VISA Program | Chapter Four |
| 2. Quality Circles and Verteams | Chapter Four |
| 3. Energy Management | Chapter Four |
| 4. Oregon Small Business Development Center | Chapter Five |
| 5. Custom Occupational Training Programs | Chapter Five |

**Listing of Innovations**

**Maricopa Community Colleges,** Phoenix, Arizona

| | |
|---|---|
| 1. National Institute for Leadership Development | Chapter One |
| 2. Human Resources Programs | Chapter Four |
| 3. Joint Council on Educational Priorities | Chapter Four |
| 4. Information Technologies | Chapter Six |

**Miami-Dade Community College,** Miami, Florida

| | |
|---|---|
| 1. Honors Program | Chapter Two |
| 2. School/College Collaboration | Chapter Three |
| 3. Institutional Research | Chapter Four |
| 4. Computer Based Support, Student Services | Chapter Six |
| 5. Computer Based Support, Instruction | Chapter Six |

**Monroe Community College,** Rochester, New York

| | |
|---|---|
| 1. On-Campus Archaeological Site | Chapter Two |
| 2. Holocaust-Genocide Studies Project | Chapter Two |
| 3. Professional Development | Chapter Four |
| 4. Center for Rehabilitation and Fitness | Chapter Five |
| 5. Adaptive Minicomputer Systems (MCCAMS) | Chapter Six |

**Moraine Valley Community College,** Palos Hills, Illinois

| | |
|---|---|
| 1. Honors Scholarship Program | Chapter Two |
| 2. College One-Stop Service Center | Chapter Three |
| 3. Center for Faculty and Program Excellence | Chapter Four |
| 4. Center for Contemporary Technology | Chapter Five |
| 5. Business-Oriented Search Service (BOSS) | Chapter Five |

**St. Louis Community College,** St. Louis, Missouri

| | |
|---|---|
| 1. Forest Park Learning Achievement Center | Chapter Two |
| 2. Florissant Valley Deaf Theater/Studies | Chapter Three |
| 3. Florissant Valley Fiber Optics Technology | Chapter Five |
| 4. Forest Park NESTAR Network-Academic Computing | Chapter Six |
| 5. Meramec TICCIT | Chapter Six |

**Santa Fe Community College,** Gainesville, Florida

| | |
|---|---|
| 1. Zoo Animal Technology | Chapter Two |
| 2. Cooperative Educational Endeavors | Chapter Three |
| 3. Model Program for Sex Equity | Chapter Three |
| 4. Computer Adaptive Testing | Chapter Six |
| 5. Computerized Academic Advisement | Chapter Six |



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